

# **BIOLOGY**

*FOR*  
**Senior Secondary School**  
**2**



**Practice Questions and Answers**

**AKADALEARN**

© 2019 All rights reserved.

AkadaLearn

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior written permission of the publisher or a license permitting restricted copying.

All trademarks used herein are the property of their respective owners. The use of any trademark in this text does not vest in the author or publisher any trademark ownership rights in such trademarks, nor does the use of such trademarks imply any affiliation with or endorsement of this book by such owners.

AkadaLearn though not direct author/publisher has sought the right to distribute this publication from respective authors and content owner, in case of infringement from our partner, we will not bear such liabilities but transfer to the content providers.

For detail referencing and credit please see [www.akadalearn.com/publication\\_credits](http://www.akadalearn.com/publication_credits)

# QUESTIONS

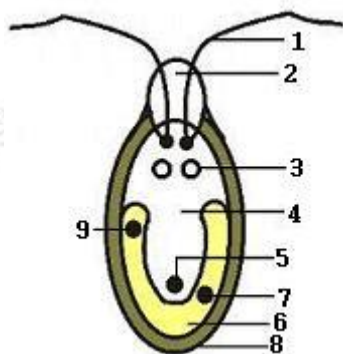
## TOPIC: CELL AS A LIVING UNIT

**DIRECTION: Choose the correct answer from the lettered options.**

1. Theodor Schwann is a \_\_\_\_\_.

- A. German zoologist
- B. German biologist
- C. French biologist
- D. French zoo

2. The part labelled 3 is the \_\_\_\_\_.



- A. papilla
- B. eye spot
- C. nucleus
- D. contractile vacuole

3. What is responsible for protein synthesis?

- A. Lysosomes
- B. Cell wall
- C. Ribosomes
- D. Vacuole

4. Amoeba is an example of \_\_\_\_\_ organisms.

- A. an acellular
- B. a bicellular
- C. a multicellular
- D. an allcellular

5. Linear structures are formed in \_\_\_\_\_ organisms.

- A. colonial
- B. filamentous
- C. single
- D. all of the above

6. The German botanist that revealed that the bodies of plants are made of cells described as units of life is called \_\_\_\_\_.

- A. Mathias Schleiden
- B. Malthias Asawo
- C. Diki Pearl
- D. Robert Hook

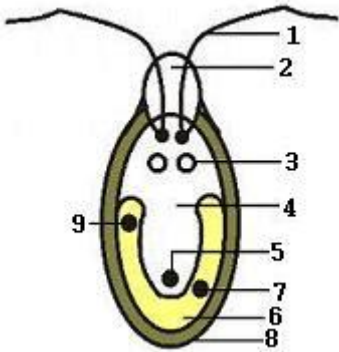
7. Organisms that have its identical cells attached end to end exist as \_\_\_\_\_.

- A. filaments
- B. Spirogyra
- C. parasites
- D. Pandorina

8. Euglena viridis is an \_\_\_\_\_ organism.

- A. nuctunal animal
- B. independent
- C. big animal
- D. standing

9. The eye spot that enables the organism below move towards the source of light is labelled \_\_\_\_\_.



- A. 9
- B. 6
- C. 4
- D. 3

10. In colonial organisms, identical cells are held together by \_\_\_\_\_.

- A. fluids
- B. cytoplasmic materials
- C. solids
- D. intracellular walls

11. In which of the following organisms does each cell combine the functions of nutrition, reproduction and growth?

- A. Rhizopus
- B. Dryopteris
- C. Brachmenium
- D. Spirogyra

12. Volvox and Eudorina are \_\_\_\_organisms.

- A. free living
- B. colonial
- C. filamentous
- D. none of the above

13. An example of an organism that exists as a filament is \_\_\_\_\_.

- A. Pandorina
- B. Chlamydomonas
- C. Paramecium
- D. Spirogyra

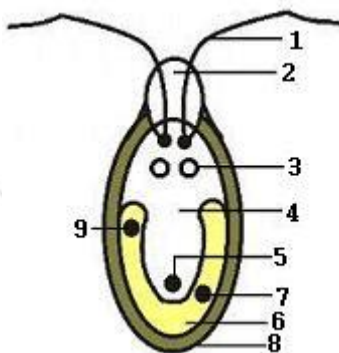
14. The organic molecules present in the nucleus are \_\_\_\_\_.

- A. DNA and DAN
- B. Protein, RNA and DNA
- C. RNA and ATP
- D. RNA and RDA

15. The flagella in colony enables the organism to \_\_\_\_\_.

- A. jump
- B. swim
- C. crawl
- D. dive

16. What is the function of the part labelled 3?



- A. For sight
- B. Osmoregulation
- C. Movement
- D. Reproduction

17. What does a chromosome contain?

- A. It contains DNA.
- B. It contains blood only.
- C. It contains digestive enzyme.
- D. It contains a membrane.

18. Amoeba, Euglena, Paramecium and Chlamydomonas are examples of \_\_\_\_\_ organisms.

- A. specialised
- B. dependent
- C. free
- D. bound

19. Volvox is an organism that exists as \_\_\_\_\_.

- A. an association
- B. an extension
- C. a family
- D. a colony

20. Man is an example of \_\_\_\_\_ organism.

- A. a multicellular
- B. an acellular
- C. an allcellular
- D. birds

21. The forms in which cells of living organisms exist includes all except \_\_\_\_\_.

- A. conjugate
- B. free living
- C. colonial
- D. filamentous



22. The structure that is most commonly identified in all living cells under the light microscope is the \_\_\_\_\_.

- A. mitochondrion
- B. chloroplast
- C. nucleus
- D. ribosome

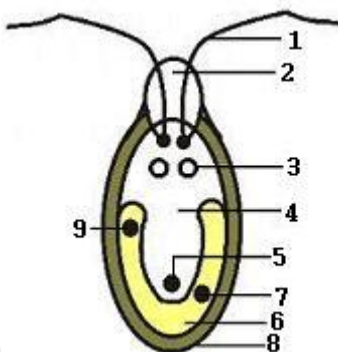
23. Which one of the following possesses only animal features?

- A. Amoeba
- B. Euglena
- C. Chlamydomonas
- D. Eudorina

24. A group of similar tissues that forms a layer in an organism is called \_\_\_\_\_.

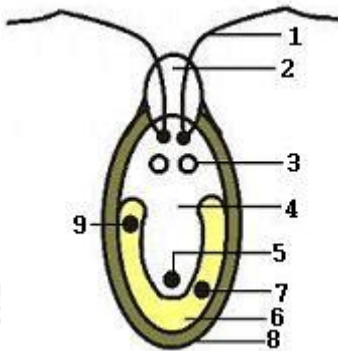
- A. tissues
- B. organ
- C. cells
- D. system

25. From the diagram, the part responsible for the storage of starch is called the \_\_\_\_\_.



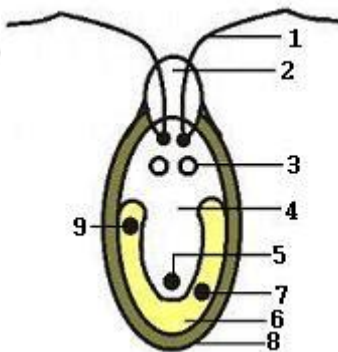
- A. pyrenoid
- B. chloroplast
- C. cytoplasm
- D. cell wall

26. The diagram is that of a \_\_\_\_\_.



- A. Euglena
- B. Spirogyra
- C. Chlamydomonas
- D. Volvox

27. Movement is carried out with the aid of the part labelled \_\_\_\_\_.



- A. 3

B. 4

C. 8

D. 1

28. All except \_\_\_\_\_ are examples of organisms that have no locomotive structures.

A. Zygnema

B. Ulothrix

C. Spirogyra

D. Pandorina

29. Felix Dujardin is a \_\_\_\_\_.

A. German

B. French biologist

C. Franch biologist

D. French zooist

30. In what year did Robert Hooke discover the honey comb?

A. 1985

B. 1988

C. 1986

D. 1665

31. \_\_\_\_\_ contain chlorophyll which aid \_\_\_\_\_ in green plants.

A. Nucleolus, transpiration

B. Centrioles, autotopism

C. Chloroplasts, photosynthesis

D. Fibre, guttation

32. Mitochondria is designed as the \_\_\_\_\_.

A. power-house of the cell

- B. housing agent of the cell
- C. catabolic agent of the cell
- D. control operator of the cell

33. \_\_\_\_\_ stores starch for the cells.

- A. Starch grains
- B. Starch granules
- C. Sugar nodules
- D. Carbohydrate sac

34. Which of the following is an example of a filamentous organism?

- A. Eudorina
- B. Euglena
- C. Spirogyra
- D. Volvox

35. "The cell is the structural and functional unit of life" is \_\_\_\_\_.

- A. a cell theory
- B. plant theory
- C. animal theory
- D. tissues theory

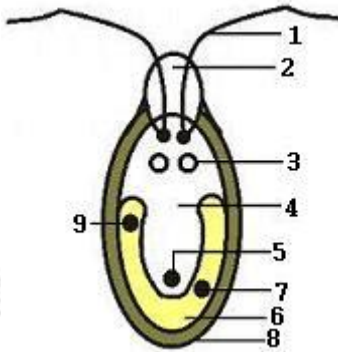
36. \_\_\_\_\_ can carry out all life activities.

- A. Gametes
- B. Nerves
- C. Blood
- D. Cells

37. An unbranched green filamentous alga consisting of a chain of cylindrical cells is called \_\_\_\_\_.

- A. Volvox
- B. Spirogyra
- C. mucor
- D. Paramecium

38. The cell wall of the structure consists of \_\_\_\_\_.



- A. glucose
- B. protein
- C. cellulose
- D. none of the above

39. \_\_\_\_\_ is an organism that shares both the characteristics of plants and animals.

- A. Mushroom
- B. Spirogyra
- C. Chlamydomonas
- D. Euglena

40. Acellular organisms are those that consist of \_\_\_\_\_.

- A. three cells
- B. four cells
- C. one cell
- D. ten cells

41. Physiological dependence exists between cells in \_\_\_\_ organisms.

- A. colonial
- B. filamentous
- C. free living
- D. none of the above

42. Which of the following organisms does not exist as a single free-living cell?

- A. Paramecium
- B. Volvox
- C. Amoeba
- D. Chlamydomonas

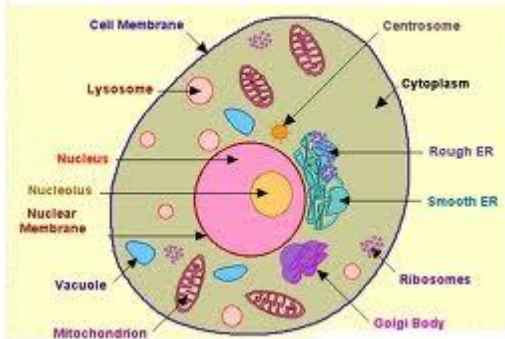
43. Who was the first man to discover the honey comb structure of the cell?

- A. Felix Dujardin
- B. Robert Hooke
- C. Charles Darwin
- D. Diki Asawo

44. A cell is the smallest \_\_\_\_ unit of an organism.

- A. structural
- B. living
- C. dead
- D. tissue

45. The diagram below shows \_\_\_\_\_.



- A. a plant cell
- B. an animal cell
- C. a human cell
- D. a cassava cell

46. What is a cell?

- A. It is defined as the primary unit of only multicellular organisms.
- B. It is the basic tissue of an organism.
- C. It is the structural and functional unit of a living organism.
- D. It is defined as the individual cells that make up the blood.

47. Identical cells in filamentous organisms are held together by \_\_\_\_\_.

- A. intercellular walls
- B. intracellular walls
- C. cytoplasmic fluids
- D. cytoplasmic materials

48. An example of a free-living organism is \_\_\_\_\_.

- A. rat
- B. fish
- C. Paramecium
- D. Spirogyra

49. The organ which is sensitive to light in Euglena is the \_\_\_\_\_.

- A. gullet
- B. chloroplast
- C. eyespot
- D. contractile vacuole



## TOPIC: CELL STRUCTURE AND FUNCTION OF CELL COMPONENTS

***DIRECTION: Choose the correct answer from the lettered options.***

1. Plant and animal cells both possess \_\_\_\_\_.

- A. cell wall
- B. chloroplast
- C. starch
- D. ribosomes

2. Chromosomes are made up of \_\_\_\_\_.

- A. DNA
- B. Genes
- C. ATP
- D. ADP

3. The organelle responsible for protein synthesis in cells is called \_\_\_\_\_.

- A. ribosome
- B. mitochondria
- C. DNA
- D. nucleolus

4. The ability of a single organism to produce an offspring is called \_\_\_\_\_ reproduction.

- A. asexual
- B. sexual
- C. monosexual
- D. bisexual

5. Leucoplasts are \_\_\_\_ plastids.

- A. green
- B. yellow
- C. colourless
- D. brown

6. In leaves, chloroplasts are oval in shape while in algae, they are \_\_\_\_.

- A. disc-like
- B. cup-like
- C. flat
- D. round-like

7. Specialized cells cannot live on their own.

- A. True
- B. False

8. Which of the following is a function of the endoplasmic reticulum?

- A. Cytoplasm protection
- B. Transportation of proteins
- C. Cellular respiration
- D. Cell rigidity

9. The energy producing reactions of cellular respiration takes place in the \_\_\_\_.

- A. nucleus
- B. ribosomes
- C. lysosomes
- D. mitochondria

10. The following are features of a plant cell except \_\_\_\_\_.

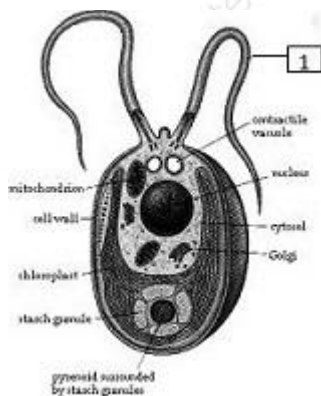
- A. centrioles
- B. starch granules
- C. large central vacuole
- D. cell wall

11. Which one of the following does not apply to chloroplasts?

- A. They contain chlorophyll.
- B. They are found only in plants.
- C. It is a site for photosynthesis.
- D. They are found in animals only.

Examine the diagram carefully and answer the question.

12. What is the name of the part labelled 1?



- A. Flagellum
- B. Proboscis
- C. Villi
- D. Pseudopodia

13. Which of the following is not a function of the vacuole?

- A. It contains waste products.
- B. It isolates materials that might be harmful to the cell.
- C. It maintains an acidic internal pH.
- D. It maintains an alkalic internal pH.

14. In the animal cell, the cytoplasm \_\_\_\_\_.

- A. is on the right side of the cell
- B. is positioned on the top of the cell
- C. spreads all over the cell
- D. is absent

15. The cytoplasm of animal cells contains all of the following except \_\_\_\_\_.

- A. nucleus
- B. mitochondrion
- C. plastids
- D. endoplasmic reticulum

16. The mitochondria contains enzymes and \_\_\_\_\_.

- A. RNA
- B. DNA
- C. Proteins
- D. ATP

17. Living organisms take in carbon dioxide and breath out oxygen.

- A. True
- B. False

18. \_\_\_\_\_ is a flexible membrane made up of proteins and lipids.

- A. Mitochondria
- B. Protoplasm
- C. Cell wall
- D. Plasma membrane

19. Nerve cells have\_\_\_\_\_ shapes.

- A. polymorphic
- B. star
- C. indefinite
- D. spiral

20. Digestion, waste removal and transport of materials out of the cell is carried out by \_\_\_\_\_.

- A. smooth endoplasmic reticulum
- B. lysosomes
- C. rough endoplasmic reticulum
- D. nucleus

21. The hereditary material, DNA is found in the \_\_\_\_\_ of the cell.

- A. nucleus
- B. mitochondria
- C. rough endoplasmic reticulum
- D. smooth endoplasmic reticulum

22. The structure in the cell that makes protein by joining amino acids together is the\_\_\_\_\_.

- A. centriole
- B. lysosome
- C. ribosome
- D. nucleolus

23. The protoplasm of a living cell is made up of the nucleus and \_\_\_\_.

- A. vacuole
- B. cytoplasm
- C. cell wall
- D. cell sap

24. Auxins are produced in the \_\_\_\_.

- A. petiole of leaves
- B. parenchyma of roots and shoots
- C. epidermis of roots and shoots
- D. apical regions of roots and shoots

25. Guard cells are \_\_\_\_ shaped.

- A. spindle
- B. bean
- C. barrel
- D. oval

26. Which of the following is not true about the cell wall?

- A. It is fibrous in nature.
- B. It is surrounded by plasma membrane.
- C. It had high tensile strength.
- D. It surrounds the plasma membrane.

27. Mitosis is carried out in \_\_\_\_ cells.

- A. somatic
- B. reproductive
- C. both somatic and reproductive
- D. none of the above

28. Prokaryotic cells lack \_\_\_\_\_.

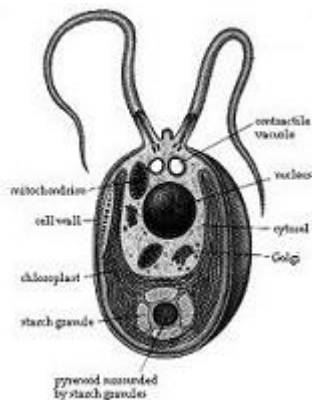
- A. nucleus and membranous organelles
- B. DNA and RNA
- C. cytoplasm and protoplasm
- D. ribosomes and lysosome

29. The seat of photosynthesis is the \_\_\_\_\_.

- A. chromoplast
- B. chloroplast
- C. leucoplast
- D. none of the above

Examine the diagram carefully and answer the question.

30. What is the name of this organism?



- A. Euglena
- B. Chlamydomonas
- C. Amoeba
- D. Fish

31. The organelle which eliminates water from the body of protozoa is the \_\_\_\_\_.

- A. plasma membrane
- B. contractile vacuole
- C. cell wall
- D. protoplasm

32. What is the function of the contractile vacuole?

- A. To protect the organism.
- B. For excretion.
- C. For the storage of chlorophyll.
- D. To store food.

33. \_\_\_\_\_ cells are less complex than eukaryotic cells.

- A. Prokaryotic
- B. Animal
- C. Plant
- D. Blood

34. The golgi apparatus is a structure found in \_\_\_\_\_.

- A. plant cells only
- B. animal cells only
- C. both plant and animal cells
- D. living and non living things

35. What membrane encloses the protoplasm of an animal cell?

- A. Cell wall
- B. Nuclear membrane
- C. Cell membrane
- D. Interplasmic membrane



36. Which of the following statements about ribosome is not correct?

- A. Ribosomes are responsible for protein synthesis.
- B. Ribosomes contain a large amount of ribonucleic acid (RNA).
- C. Ribosomes release enzymes for the digestion of bacteria.
- D. Ribosomes are attached to endoplasmic reticulum.

37. Animals, plants and fungi are all \_\_\_\_\_.

- A. prokaryotes
- B. eukaryotes
- C. plasmids
- D. unicellular

38. The ability of a microscope to distinguish two very close objects as being separated from each other is known as its \_\_\_\_\_.

- A. revolution
- B. spatial determination
- C. resolving power
- D. rotational force

39. The free passage of materials in and out of the cell is controlled by the \_\_\_\_\_.

- A. cell membrane
- B. golgi apparatus
- C. cell wall
- D. nucleus

40. The cytoplasm consists of the following except \_\_\_\_\_.

- A. lysosomes
- B. ribosomes
- C. vacuoles
- D. cell walls

41. The digestive system comprises of the following organs except the \_\_\_\_\_.

- A. kidney
- B. gut
- C. liver
- D. pancreas

42. What are the types of endoplasmic reticulum?

- A. Rough and smooth endoplasmic reticulum
- B. Light and dark endoplasmic reticulum
- C. Long and short endoplasmic reticulum
- D. Proteinous and lipid endoplasmic reticulum

43. DNA represents \_\_\_\_\_ acid.

- A. de-oxide-ribonucleic
- B. deoxyribonucleic
- C. doxyribonucleic
- D. d-oxyribonucleic

44. The power house of a cell is another name for the \_\_\_\_\_.

- A. nucleus
- B. mitochondrion
- C. endoplasmic reticulum
- D. chloroplast

45. The activity of a living cell is controlled by the \_\_\_\_\_.

- A. cell wall
- B. cytoplasm
- C. nucleus
- D. vacuole

46. In eukaryotes cells, the \_\_\_\_\_ is located in a membrane-bound nucleus .

- A. DNB
- B. DNA
- C. DBN
- D. DAN

47. Which of the following structures are found only in plant cells?

- A. Cell membrane and cytoplasm
- B. Chromatin and nucleolus
- C. Cell wall and chloroplast
- D. Cell membrane and lysosome

48. The thread-like structures found in the nucleus is known as \_\_\_\_\_.

- A. centriole
- B. DNA
- C. chromosome
- D. plasmid

49. One of the common features that both the prokaryotic and eukaryotic cells have is \_\_\_\_\_.

- A. the presence of a rigid cell wall
- B. length
- C. height
- D. DNA

50. \_\_\_\_\_ is defined as the exchange of gases between organisms and their environment.

- A. Inhalation
- B. Respiration
- C. Exhalation
- D. Perspiration

51. The \_\_\_\_\_ is a system of canals found abundantly in the cytoplasm.

- A. ribosome
- B. chromosone
- C. endoplasmic reticulum
- D. cell

52. Respiration releases energy from oxidised glucose for life's processes.

- A. True
- B. False

53. Which of the following structures are visible in the cell of a plant during mitosis?

- A. Centrioles, chromatids and nucleolus
- B. Homologous chromosomes, nuclear membrane and spindle fibres
- C. Cell wall, centrioles and chromatids
- D. Chromosomes, nuclear membrane and centromere

## TOPIC: EXCRETORY SYSTEMS AND MECHANISMS

***DIRECTION: Choose the correct answer from the lettered options.***

1. Which of the following animals excrete ammonia as its waste product?

- A. Chameleon
- B. Elephant
- C. Dogfish
- D. Amoeba

2. When guard cells become flaccid, stomatal pores \_\_\_\_\_.

- A. close
- B. open
- C. sink
- D. appear

3. The opening and closing of the stomatal pores depends on the \_\_\_\_\_ of the guard cells.

- A. flexibility
- B. elasticity
- C. shape
- D. turgidity

4. The organelle which eliminates water from the body of a protozoa is called \_\_\_\_\_.

- A. nephridia
- B. kidney
- C. contractile vacuole
- D. flame cells

5. Which of the following is not a waste product from plants?

- A. Cocaine
- B. Gum

C. Oxygen

D. Water

6. The process by which water resembling dew, drops often from the tips and margins of leaves is known as \_\_\_\_\_.

A. excretion

B. guttation

C. sweating

D. transpiration

7. The liver produces \_\_\_\_\_ as waste products.

A. bile salts, water and urea

B. latex, lemon and salts

C. sweat, salts and water

D. water vapour, uric acid and biles

8. Which of the following is a waste product in animals?

I Nitrogen extract

II Carbon (iv) oxide

III Water and sugar

A. III only

B. I and II only

C. II and III only

D. II only

Look at the diagram carefully and answer the question.

9. The diagram below represents a \_\_\_\_\_?



- A. Liver
- B. Kidney
- C. Mouth
- D. Lungs

10. Which of the following parts of the mammalian skin is involved in excretion?

- A. Sebaceous gland
- B. Sweat gland
- C. Horny layer
- D. Hair follicle

11. Carbon (iv) oxide and water are formed during \_\_\_\_\_ respiration.

- A. internal
- B. external
- C. surface
- D. none of the above

12. What is excretion?

- A. It is the use of proper hygiene and sanitation practices for the prevention of diseases.
- B. It is the absorption of heat into the body through the skin.

- C. It is the removal of waste materials from the body of a living organism.
- D. None of the above

13. What is hemoglobin?

- A. It is the iron-containing protein attached to red blood cells.
- B. It is the sulphur-containing protein attached to white blood cells.
- C. It is the platelets containing iron in the body.
- D. It is the sodium molecule contained in the blood.

14. \_\_\_\_\_ is the excretory organ of the earthworm.

- A. nephredia
- B. nephida
- C. nephridia
- D. nephron

15. Bilirubin is a \_\_\_\_\_.

- A. bile pigment
- B. bile salt
- C. carbon bile
- D. bile system

16. Each nephridium on the body of an earthworm has a ciliated funnel called \_\_\_\_\_.

- A. nephridia
- B. neph
- C. nephrostome
- D. nephosome

17. The urinary tubule begins in the cortex as a cup-like structure called the \_\_\_\_\_.

- A. Bowman's capsule
- B. proximal convoluted tubule
- C. distal convoluted tubule



D. Henle's loop

18. The excretory system for flatworms is the \_\_\_\_\_.

A. liver

B. mouth

C. kidney

D. flame cells

19. The sugar in guard cells is converted into starch when photosynthesis has ceased at \_\_\_\_\_.

A. mid day

B. mid morning

C. night

D. none of the above

20. Which of these set of ways do mammals excrete?

A. Kidney, skin, anus and lungs

B. Mouth, kidney,teeth and palm

C. Fingers, skin, liver and lungs

D. Small intestine, large intestine, duodenum

21. Guard cells can carry out photosynthesis for the plant because they contain \_\_\_\_\_.

A. chromosomes

B. cytoplasm

C. chloroplasts

D. leucoplasts

22. Excess water in plant is removed as \_\_\_\_\_ through the process of \_\_\_\_\_.

A. water vapour, transpiration

B. water, evaporation

C. stem, condensation

D. fluid, diffusion

23. What waste product does the skin produce?

A. Urine, sweat and water

B. Urea, salts and water

C. Roughages and sweat

D. Blood, water and sweat

24. In which of the following groups of organisms does excretion take place only by simple diffusion through the surface?

A. Volvox, grasshopper, toad

B. Frog, Paramecium, Amoeba

C. Fly, Spirogyra, insect

D. Amoeba, Euglena, Paramecium

25. What does the lungs in animals excrete?

A. Sweat and disease

B. Water vapour and carbon dioxide

C. Sugar and salt

D. Water and sweat

26. \_\_\_\_\_ signals the kidney to conserve water and concentrate urine.

A. ADI (anti-dehydration insulin)

B. ADE (Anti-dehydration edulin)

C. ADH (anti-diuretic hormone)

D. AD (Anti-dehydration)

27. The end product of protein digestion is \_\_\_\_\_.

A. uric acid

B. amino acid

C. chloric acid

D. energy

28. The following are examples of nitrogenous waste compounds except \_\_\_\_\_

A. urea

B. water

C. uric acid

D. ammonia

29. What is the full meaning of ADH?

A. Anti-diuretic hormone

B. Anti-diarrhea hormone

C. Anti-deoxyribonucleic hormone

D. Antigen-D hormone

30. Reptiles and insects excrete nitrogenous wastes in the form of \_\_\_\_\_.

A. urea

B. fluid

C. uric acid

D. ammonia

31. The waste products excreted from the gills of fishes are \_\_\_\_\_.

A. water, urine and salt

B. water, urea and carbon dioxide

C. bile, vapour and hormones

D. urea, ammonia salts, water

32. The removal of solid undigested food substance from the body is called \_\_\_\_\_.

A. secretion

B. digestion

- C. sweat
- D. egestion

33. The bile pigment, bilirubin is formed in the liver by the \_\_\_\_\_.

- A. breakdown of food
- B. decomposition of white blood cells
- C. breakdown of haemoglobin
- D. decomposition of carbohydrate molecules

34. \_\_\_\_\_ exchanges oxygen for carbon dioxide in the lungs at cellular level.

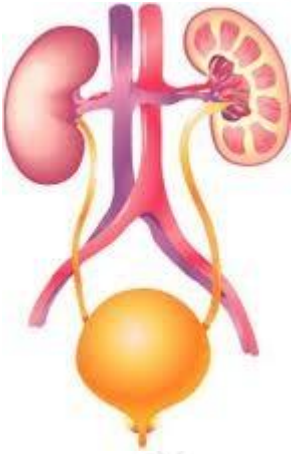
- A. Blood
- B. Platelets
- C. Haemoglobin
- D. Skin

35. Insects excrete through their \_\_\_\_\_.

- A. flame cells
- B. cells
- C. malpighian tubules
- D. kidneys

Examine the diagram carefully and answer the question that follows.

36. What does the structure below represent ?



- A. The urinary system
- B. The kidney
- C. The liver
- D. The bladder

37. Flaccidity of guard cells is due to loss of \_\_\_\_.

- A. oxygen
- B. pressure
- C. water
- D. strength

38. From the following, which group comprises protozoans?

- A. Grasshopper, Spirogyra, Euglena, Paramecium
- B. Euglena, Amoeba, Paramecium, Volvox
- C. Worms, Amoeba, frog, Euglena
- D. Chlamydomonas, toad, Amoeba, tadpole

Look at the diagram carefully and answer the question that follows.

39. What is the name of this structure shown below?



- A. Flame cell
- B. Worm
- C. Spirogyra
- D. Euglena

40. Urea, uric acid and ammonia are by-products of \_\_\_\_\_ breakdown.

- A. protein
- B. carbohydrate
- C. fats
- D. glucose

41. Urea is soluble in water and excreted by \_\_\_\_\_.

- A. birds
- B. pisces
- C. mammals
- D. protozoans

42. Excess amino acid is deaminated by the cells of the liver into \_\_\_\_\_

- A. uric minerals and organic compounds
- B. urine, uric acidic and organic compounds
- C. urea, uric acid and organic compounds
- D. urine acid and organism compounds

43. What is excretion in animals?

- A. It is a process whereby waste products are stored in the body.
- B. It is a delivery process.
- C. It is a process by which waste products of metabolism are removed from the body of living things through the anus.
- D. It is a digestion process.

44. Small openings in woody stems that allow gaseous exchange between internal tissues and the atmosphere are called \_\_\_\_\_.

- A. stomata
- B. lenticels
- C. holes
- D. pores

45. Water moves by \_\_\_\_\_ from the guard cells to the adjacent epidermal cells.

- A. diffusion
- B. osmosis
- C. force
- D. pressure

46. \_\_\_\_\_ is given out as a by-product during photosynthesis.

- A. Oxygen
- B. Carbon (iv) oxide
- C. Ammonia
- D. Energy

47. The main excretory organs of flowering plants are \_\_\_\_\_ and \_\_\_\_\_.

- A. stomata in the leave and lenticles in the stem
- B. stomata in the leave and latex in the root
- C. flowers on the plant and petals around the plant
- D. the nodules of the roots

48. Variations in \_\_\_\_\_ pressure changes the shapes of the guard cells.

- A. turgor
- B. elastic
- C. thickness
- D. all of the above

49. The removal of waste products of metabolism which are harmful to the body is termed \_\_\_\_\_.

- A. expiration
- B. excretion
- C. exhalation
- D. all of the above



## TOPIC: PROPERTIES AND FUNCTIONS OF THE LIVING CELL

***DIRECTION: Choose the correct answer from the lettered options.***

1. Which of the following factors is not responsible for photosynthesis?
  - A. Soil
  - B. Sunlight
  - C. Chlophyll
  - D. Water
  
2. Enzymes are \_\_\_\_\_.
  - A. inorganic catalysts
  - B. organic catalysts
  - C. stepping catalyst
  - D. working catalyst
  
3. Sexual reproduction is by \_\_\_\_\_ and \_\_\_\_\_.
  - A. mitosis, prophase
  - B. mitosis, meiosis
  - C. prophase, metaphase
  - D. anaphase, interphase
  
4. Inclusions are permanent structures, while organelles are temporary structures.
  - A. True
  - B. False
  
5. When the zygote of an organism continues to grow, it produces new cells by \_\_\_\_\_.
  - A. meiosis
  - B. crossing over

- C. gestation
- D. mitosis

6. \_\_\_\_ is the ability of a living organism to produce offspring.

- A. Life span
- B. Growth
- C. Reproduction
- D. Excretion

7. What are the two forms of reproduction?

- A. Bisexual and Disexual
- B. Asexual and Sexual
- C. Bisexual and Sexual
- D. Sexual and Artificial

8. \_\_\_\_\_ is the oxidation of food substances in the cells to release energy.

- A. Lactic acid fermentation
- B. Pyruvic acid fermentation
- C. Cellular respiration
- D. Aerobic respiration

9. Which one of the following is not an excretory product in plants?

- A. Mucilage
- B. Latex
- C. Protein
- D. Resins

10. \_\_\_\_ is a common excretory product in both plants and animals?

- A. Urine
- B. Oxygen

- C. Mineral salts
- D. Carbon dioxide

11. Cellular respiration is also called \_\_\_\_\_ respiration.

- A. tissue
- B. external
- C. aerobic
- D. none of the above.

12. Which of the following equation represents photosynthesis?

- A.  $12\text{H}_2\text{S} + 6\text{CO}_2 \xrightarrow{\text{chemical energy}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O} + 12\text{S}$
- B.  $2\text{H}_2\text{S} + \text{O}_2 \xrightarrow{\text{sulphur bacteria}} \text{S} + 2\text{H}_2\text{O} + \text{chemical energy}$
- C.  $6\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow{\text{sunlight chlorophyll}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
- D.  $2\text{HNO}_2 + \text{O}_2 \rightarrow 2\text{HNO}_3 + \text{chemical energy}$

13. The large central vacuole of plants is filled with \_\_\_\_\_.

- A. cell sap
- B. chlorophyll
- C. cytoplasm
- D. digestive fluids

14. The type of nutrition carried out by plants through photosynthesis is called \_\_\_\_\_ nutrition.

- A. heterotrophic
- B. holophytic
- C. holozoic
- D. chemosynthetic

15. Which one of the following is the major function of an enzyme?

- A. To accelerate metabolic reaction.
- B. To become the basis of a reaction.
- C. It is used to start any chemical reaction.
- D. It is a thickening agent.

16. The phase of growth that comes before metaphase is called \_\_\_\_\_.

- A. interphase
- B. anaphase
- C. prophase
- D. telophase

17. During glycolysis \_\_\_\_\_ is not required.

- A. enzymes
- B. glucose
- C. oxygen
- D. none of the above

18. Which of the following is described as an increase in dry weight?

- A. Reproduction
- B. Adsorption
- C. Ingestion
- D. Growth

19. Exponential increase in the population of an organism is a characteristic feature of \_\_\_\_\_.

- A. binary fission
- B. sexual reproduction
- C. budding
- D. vegetative propagation

20. In cellular respiration, energy is stored in the form of \_\_\_\_.

- A. adenosine diphosphate (ADP)
- B. adenosine monophosphate (AMP)
- C. adenosine triphosphate (ATP)
- D. heat energy

21. Which of the following is not a similarity between aerobic and anaerobic respiration?

- A. Both occur in the mitochondria.
- B. Both involve the breakdown of simple sugars.
- C. Both involve respiratory enzymes.
- D. Both involve the use of oxygen.

22. Nutrition is the intake of food as respiration is the exchange of \_\_\_\_.

- A. water
- B. gases
- C. light
- D. air

23. In plants, hormones are produced in the \_\_\_\_ and \_\_\_\_.

- A. root tip, mid stem
- B. shoot tip, seed
- C. shoot apices, root tips
- D. leaf, stem

24. The fusion of two different sex cells to produce an offspring refers to \_\_\_\_.

- A. sexual reproduction
- B. asexual reproduction
- C. bisexual reproduction
- D. monosexual reproduction

25. Which one of these is not a type of fertilization?

- A. Hermaphroditism
- B. Self-fertilization
- C. Cross-fertilization
- D. Mechanical fertilization

26. Respiration releases \_\_\_\_\_ to the environment.

- A.  $\text{CO}_2$
- B.  $\text{C}_3\text{HNO}_4$
- C. CO
- D.  $\text{O}_2$

27. Reproduction involving one parent is called \_\_\_\_\_ reproduction.

- A. sexual
- B. monosexual
- C. asexual
- D. none of the above

28. \_\_\_\_\_ is defined as the removal of metabolic waste products from the body.

- A. Egestion
- B. Exhalation
- C. Excretion
- D. Discharge

29. The basis of plant growth involves all except cell \_\_\_\_\_.

- A. division
- B. assimilation
- C. enlargement
- D. differentiation

30. The type of nutrition in which non-green plants feed on dead and decaying organic matter is called \_\_\_\_\_.

- A. symbiosis
- B. parasitism
- C. saprophytism
- D. heterotrophism

31. Which one of the following is the definition of anabolism?

- A. It is defined as the molecular scattering of complex organic molecules from simple ones.
- B. It is defined as the addition of organic catalyst to food substances to enhance the digestive process.
- C. It is defined as the building up of complex organic molecules from simple ones in a biological system.
- D. None of the above

32. A series of chemical reaction which involves the breaking down of glucose to a 3-carbon molecule is called \_\_\_\_\_.

- A. molecularares
- B. glycolysis
- C. pyruvic
- D. photosynthesis

33. At which of the following stages of mitosis do the two daughter chromosomes separate completely?

- A. Early prophase
- B. Telophase
- C. Anaphase
- D. Late prophase

34. In plants, respiration occurs in \_\_\_\_\_.

- A. mesophyll cells only
- B. the photosynthetic area only

- C. the stomata and lenticel only
- D. all living cells

35. The association between an algae and a fungus is \_\_\_\_\_.

- A. mutualistic
- B. saprophytic
- C. parasitic
- D. holozoic

36. The process by which glucose is broken down to alcohol in the absence of oxygen is called \_\_\_\_\_.

- A. decantation
- B. glycolysis
- C. fermentation
- D. mutation

37. Which of the following is a main purpose for reproduction?

- A. To ensure continuity of life.
- B. To increase population.
- C. To reduce loneliness.
- D. All of the above.

38. The following are the main waste products in animals except

- A. sweat
- B. water
- C. carbon (iv) oxide
- D. nitrogenous compounds



39. Some of the major elements required by plants are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- A. potassium, nitrogen, phosphorus, sodium, calcium
- B. nitrogen, phosphorus, molybdenum, sodium, calcium
- C. potassium, phosphorus, molybdenum, sodium, calcium
- D. potassium, nitrogen, iron, sodium, calcium, iron

40. The breakdown of glucose inside the cells without oxygen is called \_\_\_\_\_ respiration.

- A. aerobic
- B. internal
- C. external
- D. anaerobic

41. During mitosis, at what stage do the two daughter chromosomes separate completely?

- A. Early prophase
- B. Telophase
- C. Anaphase
- D. Metaphase

42. Plants reproduce asexually through the following ways except \_\_\_\_\_.

- A. fragmentation
- B. budding
- C. multifusion
- D. vegetative propagation

43. The excretory organs in flatworms, protozoa, insects and earthworm respectively are \_\_\_\_\_.

- A. nephridia, contractile vacuoles and malpighian tubules
- B. flamecells, contractile vacuole, malpighian tubules and nephridia
- C. contractile vacuole, nephridia, flamecells and malpighian tubules
- D. malpighian tubules, flamecells and contractile vacuoles

44. Complex nitrogenous compounds found on the bark and leaves of some plants are called \_\_\_\_\_.

- A. gums
- B. tannins
- C. alkaloids
- D. latex

45. Where does glycolysis occur?

- A. In the cytoplasm of cells.
- B. In non living cells alone.
- C. In the mid and hind brain.
- D. In blood cells.

46. The basis of growth involves the following processes except \_\_\_\_\_.

- A. cell reduction
- B. cell division
- C. cell differentiation
- D. cell enlargement

47. Oxygen is necessary for food to burn.

- A. True
- B. False

48. Which of the following cannot be excreted from the body?

- A. Water
- B. Carbondioxide
- C. Food
- D. Heat

49. At the end of mitosis, the number of cells produced from a parent cell is \_\_\_\_\_.

- A. four
- B. two
- C. eight
- D. six

50. Water can be excreted from the body through \_\_\_\_\_.

- A. tears
- B. sweat
- C. urine
- D. all of the above

## TOPIC: RESPIRATORY SYSTEM

***DIRECTION: Choose the correct answer from the lettered options.***

1. When we breath in air, it passes through the \_\_\_\_\_.

- A. mouth
- B. ear
- C. nasopharynx
- D. fingers

2. Gaseous exchange takes place in the adult toad through the \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- A. buccal cavity, bladder, lungs
- B. buccal cavity, skin, lungs
- C. tympanic membrane, lungs, gills
- D. buccal cavity, skin, spiracle

3. \_\_\_\_\_ are the main parts of respiration.

- A. Breathing in and breathing out
- B. Internal and external respiration
- C. Exhalation and expiration
- D. Inhalation and Inspiration

4. Which of the following organisms does not carry out direct respiration?

- A. Spirogyra
- B. Amoeba
- C. Hydra
- D. Man

5. Air enters into the \_\_\_\_\_ through the glottis?

- A. trachea
- B. oral pharynx

- C. mouth
- D. bronchis

6. The inner surface of the thoracic cavity and the outer surface of the lungs are lined with \_\_\_\_\_ membrane.

- A. cellulose
- B. pleural
- C. internal
- D. nuclear

7. When an operculate fish breathes, it takes in water through the \_\_\_\_\_.

- A. nose and passes it through the operculate organ
- B. mouth and passes it through the operculum
- C. operculum and passes it through the mouth
- D. operculum and passes it through the nostrils

8. All organisms that respire aerobically take in \_\_\_\_\_.

- A. carbon(iv)oxide
- B. air
- C. carbon(ii)oxide
- D. oxygen

9. Cutaneous respiration is also known as \_\_\_\_\_ respiration.

- A. mouth
- B. gills
- C. skin
- D. none of the above

10. The \_\_\_\_ and \_\_\_\_ form the respiratory structure.

- A. trachea and lungs
- B. nostrils and nose
- C. ear and nostrils
- D. nose and nostrils

11. The respiratory system is also known as a \_\_\_\_.

- A. gaseous exchange system
- B. nitrogen exchange system
- C. carbon dioxide waste
- D. oxygeneous dehydration

12. Tissue respiration is defined as the oxidation of \_\_\_\_.

- A. nitrogenous substances
- B. magnesium by product
- C. organic food substances
- D. phosphorus

13. Carbon dioxide and water are regarded as \_\_\_\_ products of respiration.

- A. waste
- B. gaseous
- C. liquid
- D. solid

14. Stomata pores are opened and closed by \_\_\_\_.

- A. mesophyll cells
- B. mesophyll layers
- C. intercellular spaces
- D. guard cells

15. In aquatic animals, respiration may occurs when dissolved air in water diffuses into the cells through their \_\_\_\_\_.

- A. cell wall
- B. body surface
- C. trachea
- D. air tubes

16. Which one of the following does not use gills for respiration?

- A. Mollusc
- B. Fish
- C. Crustacean
- D. Amoeba

17. What is the name of this diagram?



- A. Lungs
- B. Liver
- C. Kidney
- D. Mouth

18. Which of the following is a passage way through which the human being breaths in air?

- A. Mouth
- B. Nose
- C. Skin
- D. Lungs

19. Why is it possible for the skin of a frog to carry out gaseous exchange?

- A. It is possible because it is scarcely enriched with blood capillaries and kept moist by mucus secreted by glands.
- B. It is possible because it is richly supplied with blood capillaries and kept moist by mucus.
- C. It is possible because it is a frog.
- D. It is possible because it leaves in water which has a rich supply of oxygen necessary for respiration.

20. \_\_\_\_\_ is an infection of the alveoli.

- A. Asthma
- B. Cough
- C. Pneumonia
- D. Malaria

21. Which of the following statements is incorrect about respiration?

- A. Gaseous exchange occurs by diffusion.
- B. Oxygen combines with haemoglobin at the respiratory surface.
- C. Carbon dioxide is removed from the tissue by the process of osmosis.
- D. There are no special organs for respiration in plants.

22. \_\_\_\_\_ disease is associated with cigarette smoking.

- A. Chronic bronchitis
- B. Emphysema
- C. Pulmonary
- D. Obstructive chronic

23. The breathing out of carbon dioxide and water vapour into the atmosphere by living organisms is called \_\_\_\_\_.

- A. respiration
- B. exhalation
- C. inspiration



D. expiry

24. When an amphibious animal respire through its moist skin, it is known as \_\_\_\_.

A. cutaneous respiration

B. baniel respiration

C. divided respiration

D. amphibian respiration

25. Green plants use \_\_\_\_ from animal respiration for photosynthesis during the day.

A. oxygen

B. ATP

C. carbon (iv) oxide

D. water

26. Gaseous exchange takes place in the \_\_\_\_.

A. bronchioles

B. nostrils

C. fingers

D. alveoli

27. The immediate cause of emphysema is the release of \_\_\_\_ enzymes.

A. proteolytic

B. prostrate

C. protection

D. all enzymes

28. What is breathing?

A. It is the exchange of air between oxygen and carbon dioxide in living organisms.

B. It is the exchange of gases between the environment and the respiratory organs of a living organism.

C. It is the removal of gases from the body.

D. It is the absorption of gases into the body.

29. Tracheal tube is a respiratory structure used by \_\_\_\_\_.

- A. man
- B. insects
- C. reptiles
- D. fishes

30. The breathing in of air or oxygen is also called \_\_\_\_\_.

- A. inhalation
- B. exhalation
- C. expiration
- D. exploration

31. Which of these is a suitable respiratory substrate?

- A. Glucose
- B. Lungs
- C. Heart
- D. Gills

32. Breathing movement in mammals involves regular movements of the diaphragm and the \_\_\_\_\_.

- A. intercostal muscles
- B. vertebral column
- C. clavicle
- D. pleural cavity

33. In vascular plants, atmospheric air enters through the \_\_\_\_\_.

- A. roots and shoot
- B. leaf tip and flower
- C. stomata and lenticels
- D. stems and stalk

34. The respiratory structure for toads and frogs is \_\_\_\_\_.

- A. stomata
- B. nose
- C. lungs
- D. gills

35. The respiratory structure used by earthworm is similar to that in \_\_\_\_\_.

- A. man
- B. birds
- C. frog
- D. tadpoles

36. What is expelled during expiration?

- A. Oxygen
- B. Carbon(iv)oxide
- C. Blood
- D. Fluid

37. Breathing in mammals occurs due to the movement of the

- (i) Ribs
- (ii) Diaphragm
- (iii) Intercoastal muscles.

- A. i. only
- B. ii and iii only
- C. i and ii only
- D. i, ii and iii

38. In respiration, the following substances are released except \_\_\_\_.

- A. carbon(ii) oxide
- B. ATP
- C. water
- D. alcohol

39. The diaphragm divides the body cavity into \_\_\_\_ and \_\_\_\_.

- A. abdominal cavity and thoracic cavity
- B. thyroid cavity and abdominal cavity
- C. femur and humerus
- D. mammalian cavity and abdominal cavity

40. Which of the following is a specialized structure for respiration in complex organisms?

- A. breathing tubes
- B. gills
- C. lungs
- D. moist skin

41. Which one of the following is not a characteristic of a respiratory surface?

- A. Large surface area
- B. Thin respiratory surface
- C. Dry surface
- D. Well ventillated surface

42. Internal respiration could also be referred to as \_\_\_\_\_ respiration.

- A. tissue
- B. breathing in
- C. inhalation
- D. inspiration

43. What is respiration?

- A. It is a biochemical activity of the cell in which air is taken into the lungs.
- B. It is an act of completely expelling air from the lungs.
- C. It is a biochemical activity of the cell in which glucose is broken down to release energy.
- D. It is an acidic gaseous exchange that occurs in both green plants and animals.

44. Gases enter and leave the cells of an organism by \_\_\_\_\_.

- A. adsorption
- B. osmosis
- C. diffusion
- D. absorption

45. Frogs and toads use all of the following as respiratory organs except \_\_\_\_\_.

- A. skin
- B. mouth
- C. stomach
- D. lungs

46. Irritation of the lungs can lead to \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- A. malaria, cough, asthma
- B. emphysema, bronchitis, fever
- C. asthma, emphysema, chronic bronchitis
- D. cigarette smoking, cough, ribs pain

47. The tracheal system comprises of spiracles, tracheoles and \_\_\_\_\_.

- A. tracts
- B. tracheae
- C. carbon(iv)oxide
- D. none of the above

48. Which one of these is not a process carried out by plants?

- A. Expiration
- B. Transpiration
- C. Breathing
- D. Oxidation

## TOPIC: THE CELL AND ITS ENVIRONMENT: PHYSICAL AND BIOPHYSICAL

***DIRECTION: Choose the correct answer from the lettered options.***

1. Diffusion and osmosis are \_\_\_\_\_ processes.

- A. passive
- B. homeostatic
- C. isotonic
- D. active

2. \_\_\_\_\_ is a special form of diffusion.

- A. Osmosis
- B. Permeability
- C. Plasmolysis
- D. Turgidity

3. Water leaves red blood cells from a region of lower to higher concentration by the process known as \_\_\_\_\_.

- A. endosmosis
- B. exosmosis
- C. plasmolysis
- D. haemolysis

4. What is plasmolysis?

- A. It is the shrinkage of the protoplasm away from the cell wall due to water loss through osmosis.
- B. It is the uptake of liquid materials into the protoplasm of a living cell through the process of osmosis.

C. It is the release of liquid materials from the cell cytoplasm of animal cells leading to the splitting of the cell.

D. All of the above

5. Which of the following statements defines plasmolysis?

A. Shrinking of a plant cell in a solution.

B. Shrinking away of cytoplasm from an animal cell membrane.

C. Shrinking away of the protoplasm of a plant cell as a result of loss of water from the cell.

D. Shrinking of the vacuole while leaving the cytoplasm attached to the cell wall.

6. Which of the following is a passive process?

A. Endocytosis

B. Osmosis

C. Exocytosis

D. Active transport

7. Water vapour is lost in plants during transpiration through the \_\_\_\_.

A. stomata and lenticels

B. xylem and stomata

C. sclerenchyma and stomata

D. parenchyma and lenticels

8. The movement of molecules of gases or liquids without a semi permeable membrane is \_\_\_\_\_.

A. haemolysis

B. plasmolysis

C. diffusion

D. osmosis

9. When a plant loses more water than it gains and becomes weak, it is said to be \_\_\_\_.

A. osmotic

B. isotonic



- C. turgid
- D. flaccid

10. The main reason why rotten eggs should be separated from fresh eggs is that \_\_\_\_.

- A. foul air from the rotten eggs could easily diffuse through the shells of fresh eggs
- B. when both the rotten and fresh egg touch each other, there will be a transfer of the white into each other, thereby contaminating the fresh egg
- C. it is difficult to get rid of foul air on egg shells
- D. fresh eggs becomes yolk free when air from the rotten egg diffuses into it

11. The removal of waste products in a small organism such as amoeba is by \_\_\_\_.

- A. diffusion
- B. osmosis
- C. excretion
- D. all of the above

12. Diffusion occurs in \_\_\_\_.

- A. living things only
- B. non living things only
- C. both living and non living things
- D. animal cells only

13. One major difference between osmosis and diffusion is the presence of \_\_\_\_.

- A. fluid
- B. molecules
- C. semi permeable membrane
- D. none of the above

14. A plant cell in a more hypotonic solution will absorb water by \_\_\_\_.

- A. haemolysis
- B. endosmosis

- C. osmotic pressure
- D. exosmosis

15. When cells are immersed in strong saline or sugar solutions, it causes \_\_\_\_\_.

- A. exosmosis
- B. endosmosis
- C. excosmosis
- D. None of the above

16. While diffusion occurs in both living and non living things, osmosis occurs in \_\_\_\_\_ things only.

- A. living
- B. non living
- C. some living and non living
- D. none of the above

17. \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ can affect diffusion.

- A. State of matter, temperature, molecular size
- B. Mole content, temperature, molecular size
- C. Concentration, state of matter, mole content
- D. temperature, molecular size, molecular colour

18. In plant roots \_\_\_\_\_ is transported through the cell membrane by osmosis.

- A. cell sap
- B. carbon-dioxide
- C. oxygen
- D. water

19. \_\_\_\_\_ is a force that draws water into the cell.

- A. Osmosis
- B. Turgor

- C. Osmotic pressure
- D. Cell pressure

20. \_\_\_\_\_ pressure is caused by the difference in concentration of two solutions that are separated by a semi permeable membrane.

- A. Diffusion
- B. Osmotic
- C. Turgor
- D. Normal

21. In an isotonic cell, the surrounding fluid has \_\_\_\_\_.

- A. the same concentration with the cell contents
- B. a higher concentration than the cell contents
- C. a lower concentration than the cell contents
- D. a continuously changing concentration

22. The uptake of solid materials into the cell by engulfing is known as \_\_\_\_\_.

- A. phagocytosis
- B. osmosis
- C. plasmolysis
- D. active transport

23. What is turgor pressure?

- A. The pressure exerted by water in the cell against the cell wall that gives support to the plant.
- B. A hydrostatic pressure caused by a concentration difference between solutions that are separated by a semi-permeable membrane.
- C. It is the excess water that is stored in the bark of a tree.
- D. It is the shrinkage of the protoplasm away from the wall of a living plant caused by loss of water through osmosis.

24. Plasmolysis can be of \_\_\_\_\_ types.

- A. 4
- B. 3
- C. 2
- D. 5

25. \_\_\_\_\_ increases the speed at which molecules move.

- A. Temperature
- B. Light
- C. Darkness
- D. Water

26. In haemolysis, the shrinking of the red blood cells is called \_\_\_\_\_.

- A. haemolytic shrinking
- B. haemolytic compactment
- C. haemolytic pressure
- D. crenation

27. If the concentration of salt in the plasma falls, water enters the red blood cells by \_\_\_\_\_.

- A. diffusion
- B. osmosis
- C. osmotic pressure
- D. exosmosis

28. Cell shrinkage can be caused by \_\_\_\_\_.

- A. isotonicity
- B. endosmosis
- C. exosmosis
- D. hypotonicity

29. Which of the following statements is incorrect about Spirogyra?

- A. It is a simple multicellular organism.
- B. It is regarded as a plant and an animal.
- C. It possesses spiral chloroplast which enables the plant to photosynthesize.
- D. Its cells are protected by a layer of mucilage.

30. For diffusion to occur in a medium there must be a \_\_\_\_\_ in the concentration of the substance in two areas.

- A. addition
- B. difference
- C. multiplication
- D. division

31. Digested food enters saprophytic plants such as mucor by \_\_\_\_\_.

- A. osmosis
- B. crenation
- C. diffusion
- D. plasmolysis

32. Turgidity can also be referred to as \_\_\_\_\_.

- A. diffusion gradient
- B. turgor pressure
- C. osmotic potential
- D. osmotic pressure

33. \_\_\_\_ is the bursting of red blood cells in the plasma.

- A. Plasmolysis
- B. Haemolysis
- C. Crenation
- D. Exosmosis

34. What is osmosis?

- A. It is the movement of molecules from a region of dilute solution to a region of strong solution.
- B. It is defined as the flow of water or solvent molecules from a region of dilute solution to a region of strong solution through a selectively permeable membrane.
- C. It is the movement of water molecules from a solid to liquid through a semi permeable membrane.
- D. It is the opposite of active diffusion.

35. \_\_\_\_ is the movement of molecules from a region of higher concentration to a region of lower concentration.

- A. Diffusion
- B. Transpiration
- C. Osmosis
- D. Translocation

36. Haemolysis leads to \_\_\_\_\_ which may eventually cause death if not checked.

- A. anaemia
- B. fever
- C. malaria
- D. none of the above

37. \_\_\_\_\_ pressure is developed by a more concentrated solution when water moves into it through a semi permeable membrane.

- A. Sugar
- B. Salt
- C. Diffusion
- D. Osmotic

38. What is haemolysis?

- A. The bursting of erythrocytes causing the release of haemoglobin into the surrounding fluid.

- B. The bursting of the body cell causing the release of cytoplasmic contents into the surrounding fluid.
- C. The bursting of leucocytes causing the release of haemoglobin into the surrounding fluid.
- D. It is the opening of the cytoplasm to release cells.

39. The pressure which a solution can potentially exert is called its \_\_\_\_.

- A. osmotic pressure
- B. diffusion potential
- C. diffusion pressure
- D. osmotic potential

40. Which one of the following factors helps to speed up diffusion rate?

- A. High pressure
- B. High temperature
- C. Expanded volume rate
- D. Nature of the container

41. Which of the following is not an evidence of diffusion in plants?

- A. Entrance of carbon dioxide through stomata of leaves into the plant.
- B. Exit of oxygen through the stomata of leaves into the environment.
- C. Absorption of soil water through the roots into the plant.
- D. Release of water vapour to the exterior environment.

42. A mechanical process whereby certain molecules are filtered under external pressure through a membrane is known as \_\_\_\_\_.

- A. filtration
- B. excretion
- C. absorption
- D. exaspiration

43. The absorption of water from the large intestine is by \_\_\_\_\_.

- A. osmosis
- B. diffusion
- C. osmotic pressure
- D. turgidity

44. A solution which loses water in osmosis is said to be \_\_\_\_.

- A. hypertonic
- B. hypotonic
- C. hyponic
- D. hypernic

45. \_\_\_\_\_ is not a means of transportation across the plasma membrane.

- A. Active transport
- B. Endocytosis
- C. Capillary action
- D. Exocytosis

46. When a diffused substance is heated, the molecules of the substance move \_\_\_\_.

- A. slower
- B. faster
- C. jumps about
- D. breaks into atoms

47. Osmosis can best be defined as the movement of \_\_\_\_\_.

- A. molecules from a solution of high concentration to low concentration
- B. molecules from a solution of lower chemical concentration to a solution of higher chemical concentration
- C. water salt from a solution of higher concentration to a solution of lower concentration
- D. water molecules across a semi-permeable membrane from a solution of higher concentration to lower concentration



48. Flaccidity is \_\_\_\_\_.

- A. defined as a condition in which plants gain water from their environment
- B. defined as the condition in which plants lose water to their surrounding faster than they can absorb, thereby making the cell weak
- C. a situation whereby plants are gaining water constantly
- D. an ailing situation

49. When a plant shoot is placed in a dye solution, under which of the following physical conditions will the dye move up the stem better?

- A. High temperature and low humidity
- B. Low temperature and high humidity
- C. Low temperature and low humidity
- D. High temperature and high humidity

## TOPIC: TISSUES AND SUPPORTING SYSTEMS: SKELETON AND SUPPORT

***DIRECTION: Choose the correct answer from the lettered options.***

1. The appendicular skeleton is made up of the bones of the \_\_\_\_\_.
  - A. fore-limbs, hind-limbs and pelvic girdles
  - B. fore-limbs, hind-limbs and pelvic limbs
  - C. fore-girdle, hind-limbs and pelvic girdles
  - D. pelvic girdles, fore and hind
  
2. The thoracic cavity is separated from the abdominal cavity by a muscle sheet called \_\_\_\_\_.
  - A. pleural membrane
  - B. intercostal muscle
  - C. diaphragm
  - D. epiglottis
  
3. Which of the following is not a function of the mammalian skeleton?
  - A. It gives the body its shape.
  - B. It provides a frame work to support the internal organs.
  - C. It contracts and relaxes to bring about movement.
  - D. It provides attachment for muscles.
  
4. \_\_\_\_\_ is a characteristic of animals with exoskeleton.
  - A. Blood shed
  - B. Skeletal enlargement
  - C. Skeletal shrinkage
  - D. Periodic molting

5. Which of the following statements is true about movement of the forearm?

- A. When bending the arm, the biceps relax and the triceps contract.
- B. When bending the arm, biceps contract and the triceps relax.
- C. When straightening the arm, the biceps contract and the triceps relax.
- D. When straightening the arm, both biceps and triceps contract.

6. In woody stems, gaseous exchange takes place through the \_\_\_\_\_.

- A. micropyles
- B. stomata
- C. lenticels
- D. vessels

7. The outer skeleton of animals is called \_\_\_\_\_.

- A. endoskeleton
- B. hydrostatic skeleton
- C. exoskeleton
- D. major skeleton

8. The function of the human red blood cells is to \_\_\_\_\_.

- A. make antibodies
- B. carry oxygen
- C. absorb heat
- D. destroy bacteria

9. Which of the following statements is incorrect about the functions of each group of mammalian vertebrae?

- A. Cervical vertebrae support the neck.
- B. Thoracic vertebrae articulate with the ribs.
- C. Lumbar vertebrae provide attachment for abdominal muscles.
- D. Sacral vertebrae support the skull and allows nodding and rotating movements.

10. The vascular bundles are made up of \_\_\_\_ and \_\_\_\_.

- A. xylem, cortex
- B. phloem, sieve tube
- C. cambium, sclereids
- D. xylem, phloem

11. Few phloem bundles are found in \_\_\_\_\_.

- A. dicot root
- B. monocot root
- C. dicot leaf
- D. monocot leaf

12. The bones of the digits are called \_\_\_\_\_.

- A. fingers
- B. carpals
- C. metacarpals
- D. phalanges

13. The scapula and the ischium are parts of the \_\_\_\_\_.

- A. pectoral girdle
- B. pelvic girdle
- C. appendicular skeleton
- D. hind limb

14. Evidence that a tooth is a living part of the mammalian body can be found within the \_\_\_\_\_.

- A. gum
- B. pulp cavity
- C. cement
- D. enamel

15. Molting is also known as \_\_\_\_\_.

- A. ecdysis
- B. mating
- C. movement
- D. camouflage

16. The stems of young herbaceous plants are kept upright mainly by \_\_\_\_\_.

- A. osmotic pressure
- B. turgor pressure
- C. transpiration pull
- D. suction pressure

17. The response of plants to external stimuli in a non-directional manner is known as \_\_\_\_\_.

- A. tactic movement
- B. phototropism
- C. geotropism
- D. nastic movement

18. The size of the cortex found in the dicot stem is \_\_\_\_\_.

- A. narrow
- B. wide
- C. minute
- D. none of the above

19. In cold condition, the mammalian body reacts in the following ways except \_\_\_\_\_.

- A. shivering
- B. vasodilation
- C. vasoconstriction
- D. increasing metabolic rate

20. What is a skeleton?

- A. It is the fleshy part of the body that protects the internal organ of the body.
- B. It is the fluid filled part of the body responsible for movement and good posture.
- C. It is the bony framework of the body that produces support.
- D. It is the most essential part of the body.

21. The hardest substance in the body of man is the \_\_\_\_\_.

- A. tooth
- B. bone
- C. all of the above
- D. none of the above

22. Animals with the chitin type of skeleton can only grow by \_\_\_\_\_.

- A. feeding on unbalanced diet
- B. ecdysis
- C. giving birth
- D. laying eggs

23. The bone consists of living bone cells called \_\_\_\_ and protein fibres called\_\_\_\_\_.

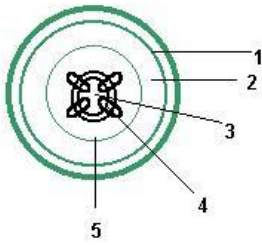
- A. osteocytes, collagen
- B. collagen, osteocytes
- C. osteocytes, cartilage
- D. leucocytes, collagen

24. Which of the following structures is capable of producing more tissues in the stem of herbaceous plants?

- A. Epidermis
- B. Pericycle
- C. Xylem
- D. Cambium

25. The three main types of skeleton in animals are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
- A. ectoskeleton, endoskeleton, hydroskeleton
  - B. ectoplast, endoplast, hydroplast
  - C. endoskeleton, hydrostatic skeleton, exoskeleton
  - D. ectoderm, endoderm, mesoderm
26. Storage of food and water in plants is a function of the \_\_\_\_\_.
- A. collenchyma
  - B. parenchyma
  - C. sclerenchyma
  - D. pericycle
27. The process by which cartilage tissues harden into bone due to the addition of minerals is described as \_\_\_\_\_.
- A. hydrogenation
  - B. ossification
  - C. mineralisation
  - D. regeneration
28. Protoxylem points towards the pith of the stem while in the root, it points towards the \_\_\_\_\_.
- A. apex
  - B. middle
  - C. cortex
  - D. cambium
29. In mammals there are \_\_\_\_\_ kinds of cartilages.
- A. 4
  - B. 2
  - C. 5
  - D. 3

30. Which of the labelled tissues in the figure is responsible for the transport of mineral salts and water in a living plant?



- A. 1
- B. 2
- C. 3
- D. 4

31. Stomata is present in \_\_\_\_\_.

- A. stems only
- B. both stems and leaves
- C. leaves only
- D. neither stems nor leaves

32. Which of the following are forms of skeletal materials?

- A. Fingernails, cuticles and cartilage
- B. Cuticles, cartilage and bones
- C. Nails, toes and fingers
- D. All bones

33. Osteocytes is another name for \_\_\_\_\_.

- A. living dead cells
- B. living bone cells
- C. dead cells
- D. living skin



34. The vertebrae that bear a considerable weight of the body is known as the \_\_\_\_\_ vertebrae.

- A. cervical
- B. lumbar
- C. thoracic
- D. sacral

35. Which of the following consists of dead cells?

- A. Meristematic cells
- B. Xylem vessels
- C. Cambium
- D. Mesophyll

36. \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ are the different kinds of cartilages in mammals.

- A. Tissues, organs, capillaries
- B. Hyaline, fibro, elastic
- C. Tyalin, thyroid, organs
- D. Thyroid, blood, fibro

37. Collenchyma, parenchyma and starch sheath makes up the \_\_\_\_\_

- A. piliferous layer
- B. endodermis
- C. root hairs
- D. cortex

38. Chitin is strengthened by deposits of \_\_\_\_\_ and \_\_\_\_\_.

- A. carbohydrate, cellulose
- B. hardened proteins, minerals
- C. vitamins, minerals
- D. carbon, hydrogen

39. The parenchyma cells in the space between two vascular bundles are called \_\_\_\_\_.

- A. pith
- B. fibres
- C. medullary rays
- D. walls

40. Which of the following plays the role of strengthening the plant?

- A. Phloem and epidermis
- B. Parenchyma and cambium
- C. Collenchyma and sclerenchyma
- D. Collenchyma and cambium

41. Long neural spine is a characteristic feature of \_\_\_\_\_ vertebra.

- A. axis
- B. cervical
- C. atlas
- D. thoracic

42. \_\_\_\_\_ and \_\_\_\_\_ bring about body movement and locomotion.

- A. Blood, muscles
- B. Bones, muscles
- C. Bone, water
- D. Finger, muscles

43. The two bones in the lower arm are the \_\_\_\_\_ and \_\_\_\_\_.

- A. tibia, fibula
- B. radius, ulna
- C. humerus, ulna
- D. humerus, femur

44. The presence of endoskeleton is a characteristic of \_\_\_\_\_.

- A. invertebrata
- B. vertebrata
- C. insecta
- D. coelenterata

45. Centrum is a bone found in the \_\_\_\_\_.

- A. facial bone
- B. cervical vertebrae
- C. vertebral column
- D. atlas vertebra

46. What happens in the process of molting?

- A. The organism sheds off its old skeleton and puts on a new one.
- B. The organism goes into torpor for.
- C. The organism goes into aestivation and give birth to their young one.
- D. The organism becomes inactive for a while until favourable conditions returns.

47. How many types of skeletal materials can be found in animals?

- A. 3
- B. 5
- C. 4
- D. 2

48. The control of the activities of the sieve tubes is carried out by the \_\_\_\_\_.

- A. cambium
- B. companion cells
- C. vascular bundles
- D. cortex

49. Arthropod cuticles are composed of a protein called \_\_\_\_\_.

- A. chitin
- B. melanin
- C. keratin
- D. cartilage

50. Which of the following does not offer support in plants?

- A. Meristem
- B. Sclerenchyma
- C. Collenchyma
- D. Xylem

51. Which of the following is not a function of the skeleton?

- A. Gives shape
- B. Aids movement
- C. Gives support
- D. Gives colour

52. Which organ removes the largest quantity of water from the blood?

- A. Lung
- B. Intestine
- C. Kidney
- D. Skin

53. Soft bodied animals like earthworms use \_\_\_\_\_ to provide support.

- A. fluid pressure
- B. osmotic pressure
- C. air pressure
- D. concentration gradient

54. Muscles are attached to bones by means of \_\_\_\_\_.

- A. ligaments
- B. cartilage
- C. connective tissues
- D. tendons

55. The upward transport of water and mineral salts is a function of \_\_\_\_\_.

- A. xylem
- B. phloem
- C. cortex
- D. tracheids

56. Which of the following provides the best surface for diffusion?

- A. Skin
- B. Stomach
- C. Aveolus
- D. Oesophagus

57. \_\_\_\_\_ is made up of a series of plates or tubes attached at the joints by sheets of unmodified chitin.

- A. Endoskeleton
- B. Multiskeleton
- C. Hydrostatic skeleton
- D. Exoskeleton

58. Which of the following constitutes the cellular components of the mammalian blood?

I. - Haemoglobin

II. - Erythrocytes

III. - Leucocytes

IV. - Platelets

A. I, II and III

B. I, III and IV

C. II, III and IV

D. I, II, III and IV

59. In plants, different tissues provide support due to the following characteristics except \_\_\_\_\_.

A. malleability

B. rigidity

C. flexibility

D. resilience

60. Which vertebra has a major projection called odontoid process?

A. Atlas

B. Axis

C. Thoracic

D. Lumbar

61. \_\_\_\_\_ is formed in the skeleton of complex vertebrates.

A. Chitin

B. Fibre

C. Cartilage

D. Bones

62. The following are types of skeletons found in animals except \_\_\_\_\_.

- A. exoskeleton
- B. endoskeleton
- C. appendix skeleton
- D. hydrostatic skeleton

63. Which of the following groups carry out similar functions in living things?

- A. Vertebral column, chitin and guard cells
- B. Sclerenchyma, cartilage and chitin
- C. Tendon, chitin and neutron
- D. Collenchyma, intercellular spaces and blood vessels

## TOPIC: TRANSPORT SYSTEM

***DIRECTION: Choose the correct answer from the lettered options.***

1. The vein, which returns blood from the head and arms to the heart is called \_\_\_\_\_.

- A. aorta
- B. inferior vena cava
- C. superior vena cava
- D. pulmonary vein

2. Vertebrates without vascular systems use \_\_\_\_\_ as a medium of transportation.

- A. body fluid
- B. flame cells
- C. coelomic fluid
- D. haemocoel fluid

3. \_\_\_\_\_ is the liquid component of the blood.

- A. Plasma
- B. Hormonal secretion
- C. Leucocyte
- D. Cell sap

4. The fluid portion of the blood is called \_\_\_\_\_.

- A. water
- B. body fluid
- C. plasma
- D. capillary fluid

5. The lymphocytes produce \_\_\_\_\_.

- A. malaria
- B. fever



C. antibodies

D. oxygen

6. There are \_\_\_\_\_ types of white blood cells.

A. 3

B. 4

C. 2

D. 1

7. Movement of the lymph is enhanced by \_\_\_\_\_.

A. the actions of the muscles

B. actions of blood vessels

C. removal of water

D. removal of body fluid

8. The two types of white blood cells are called \_\_\_\_\_ and \_\_\_\_\_.

A. phagocytes and lymphocytes

B. limocytes and phagocytes

C. zerocytes and lymphocytes

D. red blood cells

9. Which of the following are basic mediums of transportation in living organisms?

A. Cytoplasm, water, urea

B. Cell sap, latex, urine

C. Cell sap, blood, lymph

D. Lymph, blood, skin

10. The pulmonary vein carries \_\_\_\_\_.

A. oxygenated blood from the right auricle to the lungs

B. oxygenated blood from the lungs to the left auricle

- C. deoxygenated blood from the lungs to the right auricle
- D. oxygenated blood from the lungs to the right auricle

11. The red blood cell is a suitable transportation medium due to its \_\_\_\_\_.

- A. low surface area to volume ratio
- B. high surface area to volume ratio
- C. strength to volume ratio
- D. size to pressure ratio

12. Each white blood cell has a nucleus and lacks \_\_\_\_\_.

- A. lymphocyte
- B. monocyte
- C. haemoglobin
- D. lobed nucleus

13. Auxins in plants and animals are carried from the site of production to target tissues by \_\_\_\_\_.

- A. respiratory system
- B. excretory system
- C. reproductive system
- D. transport system

14. The chamber of the mammalian heart with the thickest wall is the \_\_\_\_\_.

- A. right ventricle
- B. left auricle
- C. right auricle
- D. left ventricle

15. Non nucleated and colourless tiny fragments of blood cells are called \_\_\_\_\_.

- A. platelets
- B. monocyte

- C. granulocytes
- D. lymphocytes

16. Which of the pairs of organs is located in the thoracic cavity of the mammalian body cavity?

- A. Kidneys and testis
- B. Heart and ovary
- C. Lungs and heart
- D. Kidneys and rectum

17. In active transport, molecules move against a concentration gradient, therefore, \_\_\_\_.

- A. molecules move from a region of low concentration to a region of high concentration
- B. molecules move from a region of high concentration to a region of low concentration
- C. the concentration gradient has little effect on the movement of molecules
- D. molecules force their way through special channels

18. Red blood cells are produced by the cells of the \_\_\_\_.

- A. intestine
- B. cell sap
- C. bone marrow
- D. cartilage

19. Red blood cells can survive in the body because \_\_\_\_.

- A. blood plasma and the red blood cells are isotonic
- B. red blood cells are hypotonic to the plasma
- C. red blood cells are hypertonic to the blood plasma
- D. red blood cells contain digested nutrients

20. Metabolic wastes such as ammonia leaves the body of some aquatic animals into the surrounding water by simple \_\_\_\_\_.

- A. expulsion
- B. defecation

- C. regurgitation
- D. diffusion

21. Transport systems in plants and animals refers to the \_\_\_\_\_.

- A. movement of metabolic materials from various parts of the organism
- B. circulation of water to all parts of the internal organs of the body
- C. movement of arterial blood to all parts of the body
- D. movement of the entire human body from one place to another

22. The heartbeat of the mammalian heart is caused by the \_\_\_\_\_ of the four muscular chambers of the heart.

- A. upwards and downwards movement
- B. backward and forward movement
- C. alternate contraction and relaxation
- D. alternate constriction and restriction

23. The \_\_\_\_\_ is a two layered body organism, enclosed in a huge gut cavity.

- A. Amoeba
- B. Paramecium
- C. Euglena
- D. Hydra

24. The streaming of cytoplasm in cell serves as a medium of \_\_\_\_\_ in unicellular organisms.

- A. transportation
- B. movement
- C. diffusion
- D. excretion

25. Platelets aids the \_\_\_\_\_.

- A. blocking of blood
- B. clotting of blood

- C. screening of blood
- D. skipping of blood

26. What is the basic component of cell sap and latex?

- A. Fluid
- B. Blood
- C. Water
- D. Lymph

27. What are the means by which the blood defends the body against disease causing organisms?

- A. Clumping, neutralisation, engulfing and clotting
- B. Thrombing, cleaning, fighting, protecting
- C. Clumping, neutralisation, natralisation, decantation
- D. Clotting alone

28. Which one of the following materials is not transported in plants?

- A. Carbon dioxide
- B. Manufactured food
- C. Water
- D. Excretory products

29. In what kind of circulatory system is blood pumped directly into the body spaces?

- A. Open circulation
- B. Closed circulation
- C. Semi-open circulation
- D. Reverse circulation

30. The \_\_\_\_\_ divides the heart into the right and left heart.

- A. cardiac muscles
- B. bicuspid valve

- C. septum
- D. chordac tendinae

31. The nucleus of lymphocyte is round, while that of monocyte is \_\_\_\_\_.

- A. flat
- B. kidney-shaped
- C. spiral shaped
- D. lobed shaped

32. Fatty acids dissolved in lymph are emptied into the \_\_\_\_\_ for further transportation to the liver.

- A. blood
- B. coelomic fluid
- C. lymph fluid
- D. none of the above

33. In the earthworm, the body fluid in the \_\_\_\_\_ serves as the main transport medium.

- A. body
- B. intestine
- C. nephridia
- D. coelom

34. Which one of the following is not a medium of transportation in living things?

- A. Cytoplasm
- B. Plastoplasm
- C. Water
- D. Body fluid

35. Blood platelets can be referred to as \_\_\_\_\_.

- A. thrombocytes
- B. leucocytes

C. thrombocytes

D. lucocytes

36. The antibodies produced by the lymphocytes in the body fights off \_\_\_\_\_.

A. foreign organisms

B. man

C. nutrients

D. headaches

37. When a blood vessel is damaged and exposed to air, platelets in the blood stream releases an enzyme known as \_\_\_\_\_.

A. thrombin

B. prothrombin

C. thrombokinese

D. adrenalin

38. In large and more complex organisms, surface area is comparatively smaller than the volume. Thus \_\_\_\_\_.

A. the surface area to volume ratio is high

B. the surface area to volume ratio is low

C. the surface area to volume ratio is moderate

D. none of the above

39. Which of the following sets of materials are not transported in animals?

A. Oxygen, urea

B. Vitamins, sugars

C. Water, amino acids

D. Blood, acid

40. Aside from transporting cells, lymph also transports \_\_\_\_\_.

A. fats from the digestive system

- B. fats from blood
- C. minerals from respiratory system
- D. removal of body fluid

41. Transportation in lower organisms is through \_\_\_\_\_.

- A. degradation
- B. direction
- C. diffusion
- D. defecation

42. Which one of the following is a medium of transportation in all organisms?

- A. Fluid
- B. Excreta
- C. Wax
- D. Oxygen

43. In an adult mammalian blood, the cells which lack nuclei are the \_\_\_\_\_.

- A. erythrocytes
- B. granulocytes
- C. leucocytes
- D. agranulocytes

44. Which one of the following is not a transport medium in man and most vertebrates?

- A. Lymph
- B. Plasma
- C. Blood
- D. Cell sap



45. The inability of blood to clot easily in some persons is called \_\_\_\_.

- A. thrombocytes
- B. basophils
- C. neutrophils
- D. haemophilia

46. Which of the following glands secrete a substance into the blood stream of a frightened person?

- A. Adrenal glands
- B. Salivary glands
- C. Gastric glands
- D. Parathyroid gland

# ANSWERS

## TOPIC: CELL AS A LIVING UNIT

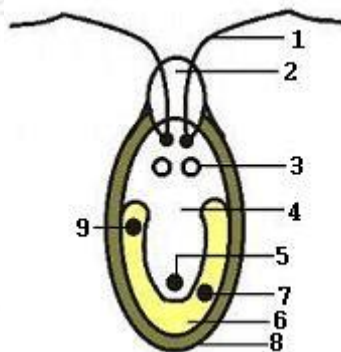
**DIRECTION:** Choose the correct answer from the lettered options.

1. Theodor Schwann is a \_\_\_\_\_.

- A. German zoologist
- B. German biologist
- C. French biologist
- D. French zoo

*The correct Answer is option [A].*

2. The part labelled 3 is the \_\_\_\_\_.



- A. papilla
- B. eye spot
- C. nucleus
- D. contractile vacuole

*The correct answer is option [D]*

3. What is responsible for protein synthesis?

- A. Lysosomes
- B. Cell wall
- C. Ribosomes

D. Vacuole

*The correct Answer is option [C].*

4. Amoeba is an example of \_\_\_\_\_ organisms.

A. an acellular

B. a bicellular

C. a multicellular

D. an allcellular

*The correct Answer is option [A].*

5. Linear structures are formed in \_\_\_\_\_ organisms.

A. colonial

B. filamentous

C. single

D. all of the above

*The correct answer is option [B]*

6. The German botanist that revealed that the bodies of plants are made of cells described as units of life is called \_\_\_\_\_.

A. Mathias Schleiden

B. Malthias Asawo

C. Diki Pearl

D. Robert Hook

*The correct Answer is option [A].*

7. Organisms that have its identical cells attached end to end exist as \_\_\_\_\_.

A. filaments

B. Spirogyra

- C. parasites
- D. Pandorina

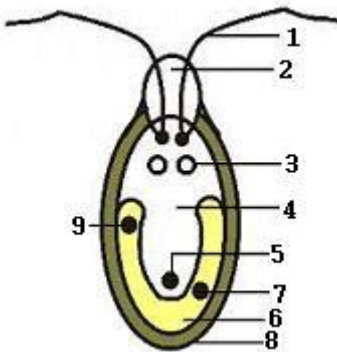
*The correct Answer is option [A].*

8. Euglena viridis is an \_\_\_\_\_ organism.

- A. nocturnal animal
- B. independent
- C. big animal
- D. standing

*The correct Answer is option [B].*

9. The eye spot that enables the organism below move towards the source of light is labelled \_\_\_\_\_.



- A. 9
- B. 6
- C. 4
- D. 3

*The correct answer is option [A]*

10. In colonial organisms, identical cells are held together by \_\_\_\_\_.

- A. fluids
- B. cytoplasmic materials

- C. solids
- D. intracellular walls

*The correct answer is option [B]*

11. In which of the following organisms does each cell combine the functions of nutrition, reproduction and growth?

- A. Rhizopus
- B. Dryopteris
- C. Brachmenium
- D. Spirogyra

*The correct answer is option [D]*

12. Volvox and Eudorina are \_\_\_\_organisms.

- A. free living
- B. colonial
- C. filamentous
- D. none of the above

*The correct answer is option [B]*

13. An example of an organism that exists as a filament is \_\_\_\_\_.

- A. Pandorina
- B. Chlamydomonas
- C. Paramecium
- D. Spirogyra

*The correct Answer is option [D].*

14. The organic molecules present in the nucleus are \_\_\_\_\_.

- A. DNA and DAN

- B. Protein, RNA and DNA
- C. RNA and ATP
- D. RNA and RDA

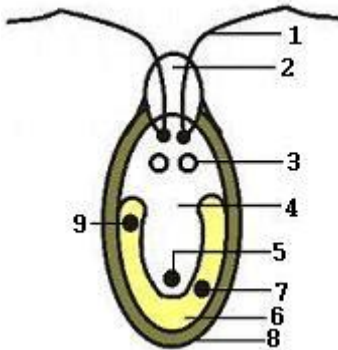
*The correct answer is option [B]*

15. The flagella in colony enables the organism to \_\_\_\_\_.

- A. jump
- B. swim
- C. crawl
- D. dive

*The correct answer is option [B]*

16. What is the function of the part labelled 3?



- A. For sight
- B. Osmoregulation
- C. Movement
- D. Reproduction

*The correct answer is option [B]*

17. What does a chromosome contain?

- A. It contains DNA.
- B. It contains blood only.

- C. It contains digestive enzyme.
- D. It contains a membrane.

*The correct Answer is option [A].*

18. Amoeba, Euglena, Paramecium and Chlamydomonas are examples of \_\_\_\_\_ organisms.

- A. specialized
- B. dependent
- C. free
- D. bound

The correct Answer is option [C].

19. Volvox is an organism that exists as \_\_\_\_\_.

- A. an association
- B. an extension
- C. a family
- D. a colony

*The correct Answer is option [D].*

20. Man is an example of \_\_\_\_\_ organism.

- A. a multicellular
- B. an acellular
- C. an allcellular
- D. birds

*The correct Answer is option [A].*

21. The forms in which cells of living organisms exist includes all except \_\_\_\_\_.



- A. conjugate
- B. free living
- C. colonial
- D. filamentous

*The correct answer is option [A]*

22. The structure that is most commonly identified in all living cells under the light microscope is the \_\_\_\_\_.

- A. mitochondrion
- B. chloroplast
- C. nucleus
- D. ribosome

*The correct answer is option [C]*

23. Which one of the following possesses only animal features?

- A. Amoeba
- B. Euglena
- C. Chlamydomonas
- D. Eudorina

*The correct answer is option [A]*

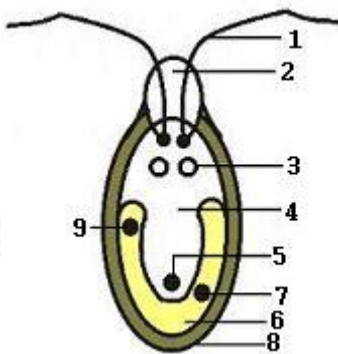
24. A group of similar tissues that forms a layer in an organism is called \_\_\_\_\_.

- A. tissues
- B. organ
- C. cells

D. system

*The correct Answer is option [B].*

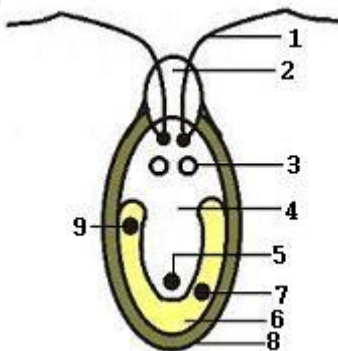
25. From the diagram, the part responsible for the storage of starch is called the \_\_\_\_\_.



- A. pyrenoid
- B. chloroplast
- C. cytoplasm
- D. cell wall

*The correct answer is option [A]*

26. The diagram is that of a \_\_\_\_\_.

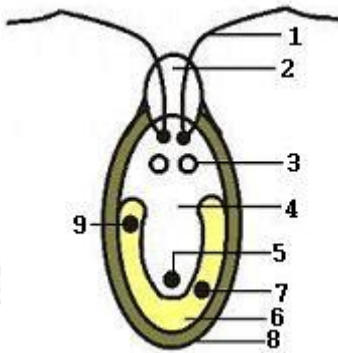


A. Euglena

- B. Spirogyra
- C. Chlamydomonas
- D. Volvox

*The correct answer is option [C]*

27. Movement is carried out with the aid of the part labelled \_\_\_\_\_.



- A. 3
- B. 4
- C. 8
- D. 1

*The correct answer is option [D]*

28. All except \_\_\_\_\_ are examples of organisms that have no locomotive structures.

- A. Zygnema
- B. Ulothrix
- C. Spirogyra
- D. Pandorina

*The correct answer is option [D]*

29. Felix Dujardin is a \_\_\_\_\_.

- A. German
- B. French biologist
- C. Franch biologist
- D. French zooist

*The correct Answer is option [B].*

30. In what year did Robert Hooke discover the honey comb?

- A. 1985
- B. 1988
- C. 1986
- D. 1665

*The correct Answer is option [D].*

31. \_\_\_\_\_ contain chlorophyll which aid \_\_\_\_\_ in green plants.

- A. Nucleolus, transpiration
- B. Centrioles, autotopism
- C. Chloroplasts, photosynthesis
- D. Fibre, guttation

*The correct Answer is option [C].*

32. Mitochondria is designed as the \_\_\_\_\_.

- A. power-house of the cell
- B. housing agent of the cell
- C. catabolic agent of the cell
- D. control operator of the cell

*The correct Answer is option [A].*

33. \_\_\_\_\_ stores starch for the cells.

- A. Starch grains
- B. Starch granules
- C. Sugar nodules
- D. Carbohydrate sac

*The correct Answer is option [B].*

34. Which of the following is an example of a filamentous organism?

- A. Eudorina
- B. Euglena
- C. Spirogyra
- D. Volvox

*The correct answer is option [C]*

35. "The cell is the structural and functional unit of life" is \_\_\_\_\_.

- A. a cell theory
- B. plant theory
- C. animal theory
- D. tissues theory

*The correct Answer is option [A].*

36. \_\_\_\_\_ can carry out all life activities.

- A. Gametes
- B. Nerves
- C. Blood
- D. Cells

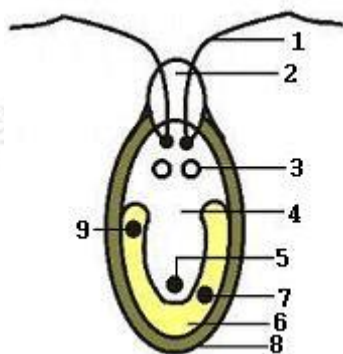
*The correct Answer is option [D].*

37. An unbranched green filamentous alga consisting of a chain of cylindrical cells is called \_\_\_\_\_.

- A. Volvox
- B. Spirogyra
- C. mucor
- D. Paramecium

*The correct answer is option [B]*

38. The cell wall of the structure consists of \_\_\_\_\_.



- A. glucose
- B. protein
- C. cellulose
- D. none of the above

*The correct answer is option [C]*

39. \_\_\_\_\_ is an organism that shares both the characteristics of plants and animals.

- A. Mushroom
- B. Spirogyra
- C. Chlamydomonas
- D. Euglena

*The correct answer is option [D]*

40. Acellular organisms are those that consist of \_\_\_\_\_.

- A. three cells
- B. four cells
- C. one cell
- D. ten cells

*The correct Answer is option [C].*

41. Physiological dependence exists between cells in \_\_\_\_\_ organisms.

- A. colonial
- B. filamentous
- C. free living
- D. none of the above

*The correct answer is option [A]*

42. Which of the following organisms does not exist as a single free-living cell?

- A. Paramecium
- B. Volvox
- C. Amoeba
- D. Chlamydomonas

*The correct answer is option [B]*

43. Who was the first man to discover the honey comb structure of the cell?

- A. Felix Dujardin
- B. Robert Hooke
- C. Charles Darwin
- D. Diki Asawo

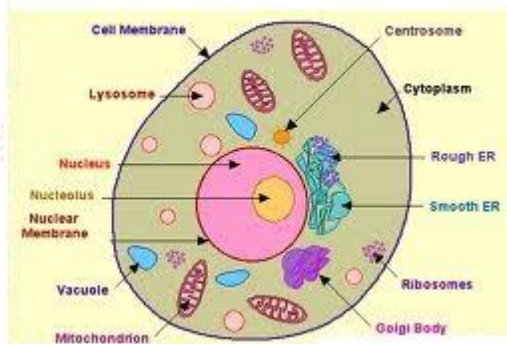
*The correct Answer is option [B].*

44. A cell is the smallest \_\_\_\_\_ unit of an organism.

- A. structural
- B. living
- C. dead
- D. tissue

*The correct Answer is option [B].*

45. The diagram below shows \_\_\_\_\_.



- A. a plant cell
- B. an animal cell
- C. a human cell
- D. a cassava cell

*The correct Answer is option [B].*

46. What is a cell?

- A. It is defined as the primary unit of only multicellular organisms.
- B. It is the basic tissue of an organism.
- C. It is the structural and functional unit of a living organism.
- D. It is defined as the individual cells that make up the blood.

*The correct Answer is option [C].*



47. Identical cells in filamentous organisms are held together by \_\_\_\_\_.

- A. intercellular walls
- B. intracellular walls
- C. cytoplasmic fluids
- D. cytoplasmic materials

*The correct answer is option [A]*

48. An example of a free-living organism is \_\_\_\_\_.

- A. rat
- B. fish
- C. Paramecium
- D. Spirogyra

*The correct answer is option [C]*

49. The organ which is sensitive to light in Euglena is the \_\_\_\_\_.

- A. gullet
- B. chloroplast
- C. eyespot
- D. contractile vacuole

*The correct answer is option [C]*

## TOPIC: CELL STRUCTURE AND FUNCTION OF CELL COMPONENTS

***DIRECTION: Choose the correct answer from the lettered options.***

1. Plant and animal cells both possess \_\_\_\_\_.

- A. cell wall
- B. chloroplast
- C. starch
- D. ribosomes

*The correct answer is option [D]*

2. Chromosomes are made up of \_\_\_\_\_.

- A. DNA
- B. Genes
- C. ATP
- D. ADP

*The correct answer is option [A]*

3. The organelle responsible for protein synthesis in cells is called \_\_\_\_\_.

- A. ribosome
- B. mitochondria
- C. DNA
- D. nucleolus

*The correct answer is option [A]*

4. The ability of a single organism to produce an offspring is called \_\_\_\_\_ reproduction.

- A. asexual
- B. sexual
- C. monosexual
- D. bisexual

*The correct answer is option [A]*

5. Leucoplasts are \_\_\_\_\_ plastids.

- A. green
- B. yellow
- C. colourless
- D. brown

*The correct answer is option [C]*

6. In leaves, chloroplasts are oval in shape while in algae, they are \_\_\_\_\_.

- A. disc-like
- B. cup-like
- C. flat
- D. round-like

*The correct answer is option [B]*

7. Specialized cells cannot live on their own.

- A. True
- B. False

*The correct answer is option [A]*

8. Which of the following is a function of the endoplasmic reticulum?

- A. Cytoplasm protection
- B. Transportation of proteins
- C. Cellular respiration
- D. Cell rigidity

*The correct answer is option [B]*

9. The energy producing reactions of cellular respiration takes place in the \_\_\_\_\_.

- A. nucleus
- B. ribosomes
- C. lysosomes
- D. mitochondria

*The correct answer is option [D]*

10. The following are features of a plant cell except \_\_\_\_\_.

- A. centrioles
- B. starch granules
- C. large central vacuole
- D. cell wall

*The correct answer is option [A]*

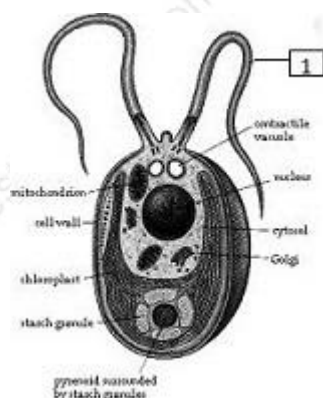
11. Which one of the following does not apply to chloroplasts?

- A. They contain chlorophyll.
- B. They are found only in plants.
- C. It is a site for photosynthesis.
- D. They are found in animals only.

*The correct answer is option [D]*

Examine the diagram carefully and answer the question.

12. What is the name of the part labelled 1?



- A. Flagellum
- B. Proboscis
- C. Villi
- D. Pseudopodia

*The correct answer is option [A]*

13. Which of the following is not a function of the vacuole?

- A. It contains waste products.
- B. It isolates materials that might be harmful to the cell.
- C. It maintains an acidic internal pH.
- D. It maintains an alkalic internal pH.

*The correct answer is option [D]*

14. in the animal cell, the cytoplasm \_\_\_\_.

- A. is on the right side of the cell
- B. is positioned on the top of the cell
- C. spreads all over the cell
- D. is absent

*The correct answer is option [C]*

15. The cytoplasm of animal cells contains all of the following except \_\_\_\_.

- A. nucleus
- B. mitochondrion
- C. plastids
- D. endoplasmic reticulum

*The correct answer is option [C]*

16. The mitochondria contains enzymes and \_\_\_\_\_.

- A. RNA
- B. DNA
- C. Proteins
- D. ATP

*The correct answer is option [D]*

17. Living organisms take in carbon dioxide and breathe out oxygen.

- A. True
- B. False

*The correct answer is option [B]*

18. \_\_\_\_\_ is a flexible membrane made up of proteins and lipids.

- A. Mitochondria
- B. Protopasm
- C. Cell wall
- D. Plasma membrane

*The correct answer is option [D]*

19. Nerve cells have \_\_\_\_\_ shapes.

- A. polymorphic
- B. star
- C. indefinite
- D. spiral

*The correct answer is option [C]*

20. Digestion, waste removal and transport of materials out of the cell is carried out by \_\_\_\_\_.

- A. smooth endoplasmic reticulum
- B. lysosomes
- C. rough endoplasmic reticulum
- D. nucleus

*The correct answer is option [B]*

21. The hereditary material, DNA is found in the \_\_\_\_\_ of the cell.

- A. nucleus
- B. mitochondria
- C. rough endoplasmic reticulum
- D. smooth endoplasmic reticulum

*The correct answer is option [A]*

22. The structure in the cell that makes protein by joining amino acids together is the\_\_\_\_\_.

- A. centriole
- B. lysosome
- C. ribosome
- D. nucleolus

*The correct answer is option [C]*

23. The protoplasm of a living cell is made up of the nucleus and \_\_\_\_\_.

- A. vacuole
- B. cytoplasm
- C. cell wall
- D. cell sap

*The correct answer is option [B]*

24. Auxins are produced in the \_\_\_\_\_.

- A. petiole of leaves
- B. parenchyma of roots and shoots
- C. epidermis of roots and shoots
- D. apical regions of roots and shoots

*The correct answer is option [D]*

25. Guard cells are \_\_\_\_\_ shaped.

- A. spindle
- B. bean
- C. barrel
- D. oval



*The correct answer is option [B]*

26. Which of the following is not true about the cell wall?

- A. It is fibrous in nature.
- B. It is surrounded by plasma membrane.
- C. It had high tensile strength.
- D. It surrounds the plasma membrane.

*The correct answer is option [B]*

27. Mitosis is carried out in \_\_\_\_\_ cells.

- A. somatic
- B. reproductive
- C. both somatic and reproductive
- D. none of the above

*The correct answer is option [A]*

28. Prokaryotic cells lack \_\_\_\_\_.

- A. nucleus and membranous organelles
- B. DNA and RNA
- C. cytoplasm and protoplasm
- D. ribosomes and lysosome

*The correct answer is option [A]*

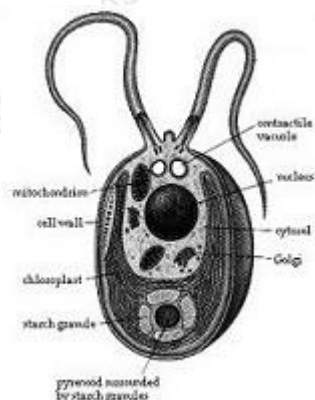
29. The seat of photosynthesis is the \_\_\_\_\_.

- A. chromoplast
- B. chloroplast
- C. leucoplast
- D. none of the above

*The correct answer is option [B]*

Examine the diagram carefully and answer the question.

30. What is the name of this organism?



- A. Euglena
- B. Chlamydomonas
- C. Amoeba
- D. Fish

*The correct answer is option [B]*

31. The organelle which eliminates water from the body of protozoa is the \_\_\_\_\_.

- A. plasma membrane
- B. contractile vacuole
- C. cell wall
- D. protoplasm

*The correct answer is option [B]*

32. What is the function of the contractile vacuule?

- A. To protect the organism.
- B. For excretion.
- C. For the storage of chlorophyll.
- D. To store food.

*The correct answer is option [B]*

33. \_\_\_\_\_ cells are less complex than eukaryotic cells.

- A. Prokaryotic
- B. Animal
- C. Plant
- D. Blood

*The correct answer is option [A]*

34. The golgi apparatus is a structure found in \_\_\_\_\_.

- A. plant cells only
- B. animal cells only
- C. both plant and animal cells
- D. living and non living things

*The correct answer is option [C]*

35. What membrane encloses the protoplasm of an animal cell?

- A. Cell wall
- B. Nuclear membrane
- C. Cell membrane
- D. Interplasmic membrane

*The correct answer is option [C]*

36. Which of the following statements about ribosome is not correct?

- A. Ribosomes are responsible for protein synthesis.
- B. Ribosomes contain a large amount of ribonucleic acid (RNA).
- C. Ribosomes release enzymes for the digestion of bacteria.
- D. Ribosomes are attached to endoplasmic reticulum.

*The correct answer is option [C]*

37. Animals, plants and fungi are all \_\_\_\_\_.

- A. prokaryotes
- B. eukaryotes
- C. plasmids
- D. unicellular

*The correct answer is option [B]*

38. The ability of a microscope to distinguish two very close objects as being separated from each other is known as its \_\_\_\_\_.

- A. revolution
- B. spatial determination
- C. resolving power
- D. rotational force

*The correct answer is option [C]*

39. The free passage of materials in and out of the cell is controlled by the \_\_\_\_\_.

- A. cell membrane
- B. golgi apparatus
- C. cell wall

D. nucleus

*The correct answer is option [A]*

40. The cytoplasm consists of the following except \_\_\_\_\_.

A. lysosomes

B. ribosomes

C. vacuoles

D. cell walls

*The correct answer is option [D]*

41. The digestive system comprises of the following organs except the \_\_\_\_\_.

A. kidney

B. gut

C. liver

D. pancreas

*The correct answer is option [A]*

42. What are the types of endoplasmic reticulum?

A. Rough and smooth endoplasmic reticulum

B. Light and dark endoplasmic reticulum

C. Long and short endoplasmic reticulum

D. Proteinous and lipid endoplasmic reticulum

*The correct answer is option [A]*

43. DNA represents \_\_\_\_\_ acid.

A. de-oxide-ribonucleic

B. deoxyribonucleic

C. doxyribonucleic

D. d-oxyribonucleic

*The correct answer is option [B]*

44.

A. nucleus

B. mitochondrion

C. endoplasmic reticulum

D. chloroplast

*The correct answer is option [B]*

45. The activity of a living cell is controlled by the \_\_\_\_\_.

A. cell wall

B. cytoplasm

C. nucleus

D. vacuole

*The correct answer is option [C]*

46. In eukaryotes cells, the \_\_\_\_\_ is located in a membrane-bound nucleus .

A. DNB

B. DNA

C. DBN

D. DAN

*The correct answer is option [B]*

47. Which of the following structures are found only in plant cells?

A. Cell membrane and cytoplasm

B. Chromatin and nucleolus

C. Cell wall and chloroplast

D. Cell membrane and lysosome

*The correct answer is option [C]*

48. The thread-like structures found in the nucleus is known as \_\_\_\_\_.

- A. centriole
- B. DNA
- C. chromosome
- D. plasmid

*The correct answer is option [C]*

49. One of the common features that both the prokaryotic and eukaryotic cells have is \_\_\_\_\_.

- A. the presence of a rigid cell wall
- B. length
- C. height
- D. DNA

*The correct answer is option [D]*

50. \_\_\_\_\_ is defined as the exchange of gases between organisms and their environment.

- A. Inhalation
- B. Respiration
- C. Exhalation
- D. Perspiration

*The correct answer is option [B]*

51. The \_\_\_\_\_ is a system of canals found abundantly in the cytoplasm.

- A. ribosome
- B. chromosone

- C. endoplasmic reticulum
- D. cell

*The correct answer is option [C]*

52. Respiration releases energy from oxidised glucose for life's processes.

- A. True
- B. False

*The correct answer is option [A]*

53. Which of the following structures are visible in the cell of a plant during mitosis?

- A. Centrioles, chromatids and nucleolus
- B. Homologous chromosomes, nuclear membrane and spindle fibres
- C. Cell wall, centrioles and chromatids
- D. Chromosomes, nuclear membrane and centromere

The correct answer is option [B]



## TOPIC: EXCRETORY SYSTEMS AND MECHANISMS

**DIRECTION:** Choose the correct answer from the lettered options.

1. Which of the following animals excrete ammonia as its waste product?

- A. Chameleon
- B. Elephant
- C. Dogfish
- D. Amoeba

*The correct answer is option [D].*

2. When guard cells become flaccid, stomatal pores \_\_\_\_\_.

- A. close
- B. open
- C. sink
- D. appear

*The correct answer is option [A].*

3. The opening and closing of the stomatal pores depends on the \_\_\_\_\_ of the guard cells.

- A. flexibility
- B. elasticity
- C. shape
- D. turgidity

*The correct answer is option [D].*

4. The organelle which eliminates water from the body of a protozoa is called \_\_\_\_\_.

- A. nephridia
- B. kidney
- C. contractile vacuole

D. flame cells

*The correct Answer is option [C].*

5. Which of the following is not a waste product from plants?

A. Cocaine

B. Gum

C. Oxygen

D. Water

*The correct answer is option [D].*

6. The process by which water resembling dew, drops often from the tips and margins of leaves is known as \_\_\_\_\_.

A. excretion

B. guttation

C. sweating

D. transpiration

*The correct Answer is option [B].*

7. The liver produces \_\_\_\_\_ as waste products.

A. bile salts, water and urea

B. latex, lemon and salts

C. sweat, salts and water

D. water vapour, uric acid and biles

*The correct Answer is option [A].*

8. Which of the following is a waste product in animals?

I Nitrogen extract

II Carbon (iv) oxide

III Water and sugar

- A. III only
- B. I and II only
- C. II and III only
- D. II only

*The correct answer is option [D].*

Look at the diagram carefully and answer the question.

9. The diagram below represents a \_\_\_\_\_?



- A. Liver
- B. Kidney
- C. Mouth
- D. Lungs

*The correct Answer is option [B].*

10. Which of the following parts of the mammalian skin is involved in excretion?

- A. Sebaceous gland
- B. Sweat gland
- C. Horny layer
- D. Hair follicle

*The correct Answer is option [B].*

11. Carbon (iv) oxide and water are formed during \_\_\_\_\_ respiration.

- A. internal
- B. external
- C. surface
- D. none of the above

*The correct answer is option [A].*

12. What is excretion?

- A. It is the use of proper hygiene and sanitation practices for the prevention of diseases.
- B. It is the absorption of heat into the body through the skin.
- C. It is the removal of waste materials from the body of a living organism.
- D. None of the above

The correct Answer is option [C].

13. What is heamoglobin?

- A. It is the iron-containing protein attached to red blood cells.
- B. It is the sulphur-containing protein attached to white blood cells.
- C. It is the platelets containing iron in the body.
- D. It is the sodium molecule contained in the blood.

*The correct Answer is option [A].*

14. \_\_\_\_\_ is the excretory organ of the earthworm.

- A. nephredia
- B. nephida
- C. nephridia
- D. nephron

*The correct Answer is option [C].*

15. Bilirubin is a \_\_\_\_\_.

- A. bile pigment
- B. bile salt
- C. carbon bile
- D. bile system

*The correct Answer is option [A].*

16. Each nephridium on the body of an earthworm has a ciliated funnel called \_\_\_\_\_.

- A. nephridia
- B. neph
- C. nephrostome
- D. nephosome

*The correct Answer is option [C].*

17. The urinary tubule begins in the cortex as a cup-like structure called the \_\_\_\_\_.

- A. Bowman's capsule
- B. proximal convoluted tubule
- C. distal convoluted tubule
- D. Henle's loop

*The correct Answer is option [A].*

18. The excretory system for flatworms is the \_\_\_\_\_.

- A. liver
- B. mouth
- C. kidney
- D. flame cells

The correct Answer is option [D].

19. The sugar in guard cells is converted into starch when photosynthesis has ceased at \_\_\_\_.

- A. mid day
- B. mid morning
- C. night
- D. none of the above

*The correct answer is option [C].*

20. Which of these set of ways do mammals excrete?

- A. Kidney, skin, anus and lungs
- B. Mouth, kidney,teeth and palm
- C. Fingers, skin, liver and lungs
- D. Small intestine, large intestine, duodenum

*The correct Answer is option [A].*

21. Guard cells can carry out photosynthesis for the plant because they contain \_\_\_\_.

- A. chromosomes
- B. cytoplasm
- C. chloroplasts
- D. leucoplasts

*The correct answer is option [C].*

22. Excess water in plant is removed as \_\_\_\_ through the process of \_\_\_\_.

- A. water vapour, transpiration
- B. water, evaporation
- C. stem, condensation

D. fluid, diffusion

*The correct Answer is option [A].*

23. What waste product does the skin produce?

A. Urine, sweat and water

B. Urea, salts and water

C. Roughages and sweat

D. Blood, water and sweat

*The correct Answer is option [B].*

24. In which of the following groups of organisms does excretion take place only by simple diffusion through the surface?

A. Volvox, grasshopper, toad

B. Frog, Paramecium, Amoeba

C. Fly, Spirogyra, insect

D. Amoeba, Euglena, Paramecium

*The correct Answer is option [D].*

25. What does the lungs in animals excrete?

A. Sweat and disease

B. Water vapour and carbon dioxide

C. Sugar and salt

D. Water and sweat

*The correct Answer is option [B].*

26. \_\_\_\_\_ signals the kidney to conserve water and concentrate urine.

A. ADI (anti-dehydration insulin)

B. ADE (Anti-dehydration edulin)

C. ADH (anti-diuretic hormone)

D. AD (Anti-dehydration)

*The correct Answer is option [C].*

27. The end product of protein digestion is \_\_\_\_\_.

A. uric acid

B. amino acid

C. chloric acid

D. energy

*The correct answer is option [B].*

28. The following are examples of nitrogenous waste compounds except \_\_\_\_\_

A. urea

B. water

C. uric acid

D. ammonia

*The correct answer is option [B].*

29. What is the full meaning of ADH?

A. Anti-diuretic hormone

B. Anti-diarrhea hormone

C. Anti-deoxyribonucleic hormone

D. Antigen-D hormone

The correct Answer is option [A].

30. Reptiles and insects excrete nitrogenous wastes in the form of \_\_\_\_\_.

A. urea

B. fluid



- C. uric acid
- D. ammonia

*The correct answer is option [C].*

31. The waste products excreted from the gills of fishes are \_\_\_\_\_.

- A. water, urine and salt
- B. water, urea and carbon dioxide
- C. bile, vapour and hormones
- D. urea, ammonia salts, water

*The correct Answer is option [B].*

32. The removal of solid undigested food substance from the body is called \_\_\_\_\_.

- A. secretion
- B. digestion
- C. sweat
- D. egestion

*The correct Answer is option [D].*

33. The bile pigment, bilirubin is formed in the liver by the \_\_\_\_\_.

- A. breakdown of food
- B. decomposition of white blood cells
- C. breakdown of haemoglobin
- D. decomposition of carbohydrate molecules

*The correct Answer is option [C].*

34. \_\_\_\_\_ exchanges oxygen for carbon dioxide in the lungs at cellular level.

- A. Blood
- B. Platelets

- C. Haemoglobin
- D. Skin

*The correct Answer is option [C].*

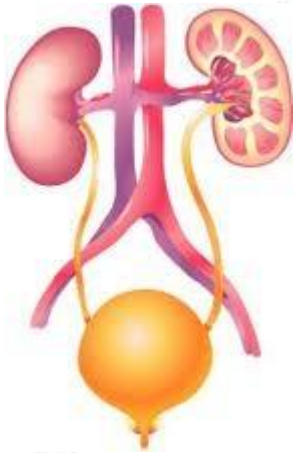
35. Insects excrete through their \_\_\_\_\_.

- A. flame cells
- B. cells
- C. malpighian tubules
- D. kidneys

*The correct Answer is option [C].*

Examine the diagram carefully and answer the question that follows.

36. What does the structure below represent?



- A. The urinary system
- B. The kidney
- C. The liver
- D. The bladder

*The correct Answer is option [A].*

37. Flaccidity of guard cells is due to loss of \_\_\_\_.

- A. oxygen
- B. pressure
- C. water
- D. strength

*The correct answer is option [C].*

38. From the following, which group comprises protozoans?

- A. Grasshopper, Spirogyra, Euglena, Paramecium
- B. Euglena, Amoeba, Paramecium, Volvox
- C. Worms, Amoeba, frog, Euglena
- D. Chlamydomonas, toad, Amoeba, tadpole

*The correct Answer is option [B].*

Look at the diagram carefully and answer the question that follows.

39. What is the name of this structure shown below?



- A. Flame cell
- B. Worm
- C. Spirogyra
- D. Euglena

*The correct Answer is option [A].*

40. Urea, uric acid and ammonia are by-products of \_\_\_\_ breakdown.

- A. protein
- B. carbohydrate
- C. fats

D. glucose

*The correct answer is option [A].*

41. Urea is soluble in water and excreted by \_\_\_\_.

A. birds

B. pisces

C. mammals

D. protozoans

*The correct answer is option [C].*

42. Excess amino acid is deaminated by the cells of the liver into \_\_\_\_\_.

A. uric minerals and organic compounds

B. urine, uric acidic and organic compounds

C. urea, uric acid and organic compounds

D. urine acid and organism compounds

*The correct answer is option [C].*

43. What is excretion in animals?

A. It is a process whereby waste products are stored in the body.

B. It is a delivery process.

C. It is a process by which waste products of metabolism are removed from the body of living things through the anus.

D. It is a digestion process.

*The correct Answer is option [C].*

44. Small openings in woody stems that allow gaseous exchange between internal tissues and the atmosphere are called \_\_\_\_.

A. stomata

B. lenticels

C. holes

D. pores

*The correct answer is option [B].*

45. Water moves by \_\_\_\_\_ from the guard cells to the adjacent epidermal cells.

A. diffusion

B. osmosis

C. force

D. pressure

*The correct answer is option [B].*

46. \_\_\_\_\_ is given out as a by-product during photosynthesis.

A. Oxygen

B. Carbon (iv) oxide

C. Ammonia

D. Energy

*The correct answer is option [A].*

47. The main excretory organs of flowering plants are \_\_\_\_\_ and \_\_\_\_\_.

A. stomata in the leave and lenticles in the stem

B. stomata in the leave and latex in the root

C. flowers on the plant and petals around the plant

D. the nodules of the roots

*The correct Answer is option [A].*

48. Variations in \_\_\_\_\_ pressure changes the shapes of the guard cells.

A. turgor

B. elastic

- C. thickness
- D. all of the above

*The correct answer is option [A].*

49. The removal of waste products of metabolism which are harmful to the body is termed \_\_\_\_.

- A. expiration
- B. excretion
- C. exhalation
- D. all of the above

*The correct answer is option [B].*

## TOPIC: PROPERTIES AND FUNCTIONS OF THE LIVING CELL

**DIRECTION:** Choose the correct answer from the lettered options.

1. Which of the following factors is not responsible for photosynthesis?

- A. Soil
- B. Sunlight
- C. Chlophyll
- D. Water

*The correct answer is option [A].*

2. Enzymes are \_\_\_\_\_.

- A. inorganic catalysts
- B. organic catalysts
- C. stepping catalyst
- D. working catalyst

*The correct Answer is option [B].*

3. Sexual reproduction is by \_\_\_\_\_ and \_\_\_\_\_.

- A. mitosis, prophase
- B. mitosis, meiosis
- C. prophase, metaphase
- D. anaphase, interphase

*The correct answer is option [B].*

4. Inclusions are permanent structures, while organelles are temporary structures.

- A. True
- B. False

*The correct Answer is option [B].*

5. When the zygote of an organism continues to grow, it produces new cells by \_\_\_\_\_.

- A. meiosis
- B. crossing over
- C. gestation
- D. mitosis

The correct answer is option [D]

6. \_\_\_\_\_ is the ability of a living organism to produce offspring.

- A. Life span
- B. Growth
- C. Reproduction
- D. Excretion

*The correct answer is option [C]*

7. What are the two forms of reproduction?

- A. Bisexual and Disexual
- B. Asexual and Sexual
- C. Bisexual and Sexual
- D. Sexual and Artificial

*The correct answer is option [B]*

8. \_\_\_\_\_ is the oxidation of food substances in the cells to release energy.

- A. Lactic acid fermentation
- B. Pyruvic acid fermentation
- C. Cellular respiration
- D. Aerobic respiration

*The correct answer is option [C].*



9. Which one of the following is not an excretory product in plants?

- A. Mucilage
- B. Latex
- C. Protein
- D. Resins

*The correct answer is option [C].*

10. \_\_\_\_ is a common excretory product in both plants and animals?

- A. Urine
- B. Oxygen
- C. Mineral salts
- D. Carbon dioxide

*The correct answer is option [D] Green plants in darkness or plants that do not contain chlorophyll produce carbon dioxide and water as respiratory waste products. Carbon dioxide is secreted in the same manner as oxygen.*

11. Cellular respiration is also called \_\_\_\_\_ respiration.

- A. tissue
- B. external
- C. aerobic
- D. none of the above.

*The correct answer is option [A].*

12. Which of the following equation represents photosynthesis?

- A.  $12\text{H}_2\text{S} + 6\text{CO}_2 \xrightarrow{\text{chemical energy}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O} + 12\text{S}$
- B.  $2\text{H}_2\text{S} + \text{O}_2 \xrightarrow{\text{sulphur bacteria}} \text{S} + 2\text{H}_2\text{O} + \text{chemical energy}$
- C.  $6\text{CO}_2 + 6\text{H}_2\text{O} \xrightarrow[\text{chlorophyll}]{\text{sunlight}} \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$

D.  $2\text{HNO}_2 + \text{O}_2 \rightarrow 2\text{HNO}_3 + \text{chemical energy}$

*The correct answer is option [C].*

13. The large central vacuole of plants is filled with \_\_\_\_\_.

- A. cell sap
- B. chlorophyll
- C. cytoplasm
- D. digestive fluids

*The correct Answer is option [A].*

14. The type of nutrition carried out by plants through photosynthesis is called \_\_\_\_\_ nutrition.

- A. heterotrophic
- B. holophytic
- C. holozoic
- D. chemosynthetic

*The correct answer is option [B].*

15. Which one of the following is the major function of an enzyme?

- A. To accelerate metabolic reaction.
- B. To become the basis of a reaction.
- C. It is used to start any chemical reaction.
- D. It is a thickening agent.

*The correct Answer is option [A].*

16. The phase of growth that comes before metaphase is called \_\_\_\_\_.

- A. interphase
- B. anaphase

- C. prophase
- D. telophase

*The correct answer is option [C].*

17. During glycolysis \_\_\_\_\_ is not required.

- A. enzymes
- B. glucose
- C. oxygen
- D. none of the above

*The correct answer is option [C]*

18. Which of the following is described as an increase in dry weight?

- A. Reproduction
- B. Adsorption
- C. Ingestion
- D. Growth

*The correct answer is option [D]*

19. Exponential increase in the population of an organism is a characteristic feature of \_\_\_\_\_.

- A. binary fission
- B. sexual reproduction
- C. budding
- D. vegetative propagation

*The correct answer is option [A]*

20. In cellular respiration, energy is stored in the form of \_\_\_\_\_.

- A. adenosine diphosphate (ADP)

- B. adenosine monophosphate (AMP)
- C. adenosine triphosphate (ATP)
- D. heat energy

*The correct answer is option [C] ATP is the cell's immediate energy store and this is because it is extremely reactive and will readily release its energy when it is needed.*

21. Which of the following is not a similarity between aerobic and anaerobic respiration?

- A. Both occur in the mitochondria.
- B. Both involve the breakdown of simple sugars.
- C. Both involve respiratory enzymes.
- D. Both involve the use of oxygen.

*The correct answer is option [D].*

22. Nutrition is the intake of food as respiration is the exchange of \_\_\_\_\_.

- A. water
- B. gases
- C. light
- D. air

*The correct answer is option [B]*

23. In plants, hormones are produced in the \_\_\_\_\_ and \_\_\_\_\_.

- A. root tip, mid stem
- B. shoot tip, seed
- C. shoot apices, root tips
- D. leaf, stem

*The correct answer is option [C].*

24. The fusion of two different sex cells to produce an offspring refers to \_\_\_\_.

- A. sexual reproduction
- B. asexual reproduction
- C. bisexual reproduction
- D. monosexual reproduction

*The correct answer is option [A]*

25. Which one of these is not a type of fertilization?

- A. Hermaphroditism
- B. Self-fertilization
- C. Cross-fertilization
- D. Mechanical fertilization

*The correct answer is option [D].*

26. Respiration releases \_\_\_\_ to the environment.

- A.  $\text{CO}_2$
- B.  $\text{C}^3\text{HNO}^4$
- C. CO
- D.  $\text{O}^2$

*The correct answer is option [A]*

27. Reproduction involving one parent is called \_\_\_\_ reproduction.

- A. sexual
- B. monosexual
- C. asexual
- D. none of the above

*The correct answer is option [C].*

28. \_\_\_\_\_ is defined as the removal of metabolic waste products from the body.

- A. Egestion
- B. Exhalation
- C. Excretion
- D. Discharge

*The correct answer is option [C]*

29. The basis of plant growth involves all except cell \_\_\_\_\_.

- A. division
- B. assimilation
- C. enlargement
- D. differentiation

*The correct answer is option [B].*

30. The type of nutrition in which non-green plants feed on dead and decaying organic matter is called \_\_\_\_\_.

- A. symbiosis
- B. parasitism
- C. saprophytism
- D. heterotrophism

*The correct answer is option [C].*

31. Which one of the following is the definition of anabolism?

- A. It is defined as the molecular scattering of complex organic molecules from simple ones.
- B. It is defined as the addition of organic catalyst to food substances to enhance the digestive process.
- C. It is defined as the building up of complex organic molecules from simple ones in a biological system.

D. None of the above

*The correct Answer is option [C].*

32. A series of chemical reaction which involves the breaking down of glucose to a 3-carbon molecule is called \_\_\_\_\_.

A. molecularares

B. glycolysis

C. pyruvic

D. photosynthesis

*The correct Answer is option [B].*

33. At which of the following stages of mitosis do the two daughter chromosomes separate completely?

A. Early prophase

B. Telophase

C. Anaphase

D. Late prophase

*The correct answer is option [B]*

34. In plants, respiration occurs in \_\_\_\_\_.

A. mesophyll cells only

B. the photosynthetic area only

C. the stomata and lenticel only

D. all living cells

*The correct answer is option [C]*

35. The association between an algae and a fungus is \_\_\_\_\_.

A. mutualistic

B. saprophytic

- C. parasitic
- D. holozoic

*The correct answer is option [A].*

36. The process by which glucose is broken down to alcohol in the absence of oxygen is called \_\_\_\_\_.

- A. decantation
- B. glycolysis
- C. fermentation
- D. mutation

The correct Answer is option [C].

37. Which of the following is a main purpose for reproduction?

- A. To ensure continuity of life.
- B. To increase population.
- C. To reduce loneliness.
- D. All of the above.

The correct answer is option [A]

38. The following are the main waste products in animals except

- A. sweat
- B. water
- C. carbon (iv) oxide
- D. nitrogenous compounds

*The correct answer is option [A]. Sweat is the water excreted from the skin.*



39. Some of the major elements required by plants are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- A. potassium, nitrogen, phosphorus, sodium, calcium
- B. nitrogen, phosphorus, molybdenum, sodium, calcium
- C. potassium, phosphorus, molybdenum, sodium, calcium
- D. potassium, nitrogen, iron, sodium, calcium, iron

*The correct answer is option [A]*

40. The breakdown of glucose inside the cells without oxygen is called \_\_\_\_\_ respiration.

- A. aerobic
- B. internal
- C. external
- D. anaerobic

*The correct answer is option [D].*

41. During mitosis, at what stage do the two daughter chromosomes separate completely?

- A. Early prophase
- B. Telophase
- C. Anaphase
- D. Metaphase

*The correct answer is option [C]*

42. Plants reproduce asexually through the following ways except \_\_\_\_\_.

- A. fragmentation
- B. budding
- C. multifussion
- D. vegetative propagation

*The correct answer is option [C].*

43. The excretory organs in flatworms, protozoa, insects and earthworm respectively are \_\_\_\_\_.

- A. nephridia, contractile vacuoles and malpighian tubules
- B. flamecells, contractile vacuole, malpighian tubules and nephridia
- C. contractile vacuole, nephridia, flamecells and malpighian tubules
- D. malpighian tubules, flamecells and contractile vacuoles

*The correct answer is option [B].*

44. Complex nitrogenous compounds found on the bark and leaves of some plants are called \_\_\_\_\_.

- A. gums
- B. tannins
- C. alkaloids
- D. latex

The correct answer is option [C].

45. Where does glycolysis occur?

- A. In the cytoplasm of cells.
- B. In non living cells alone.
- C. In the mid and hind brain.
- D. In blood cells.

*The correct Answer is option [A].*

46. The basis of growth involves the following processes except \_\_\_\_\_.

- A. cell reduction
- B. cell division

C. cell differentiation

D. cell enlargement

*The correct answer is option [A]*

47. Oxygen is necessary for food to burn.

A. True

B. False

*The correct answer is option [A]*

48. Which of the following cannot be excreted from the body?

A. Water

B. Carbondioxide

C. Food

D. Heat

*The correct answer is option [C] Only excess food substances which cannot be stored by the body are excreted; not food itself.*

49. At the end of mitosis, the number of cells produced from a parent cell is \_\_\_\_\_.

A. four

B. two

C. eight

D. six

*The correct answer is option [B]*

50. Water can be excreted from the body through \_\_\_\_\_.

A. tears

B. sweat

C. urine

D. all of the above

*The correct answer is option [D]*

## TOPIC: RESPIRATORY SYSTEM

**DIRECTION:** Choose the correct answer from the lettered options.

1. When we breath in air, it passes through the \_\_\_\_\_.

- A. mouth
- B. ear
- C. nasopharynx
- D. fingers

*The correct Answer is option [C].*

2. Gaseous exchange takes place in the adult toad through the \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- A. buccal cavity, bladder, lungs
- B. buccal cavity, skin, lungs
- C. tympanic membrane, lungs, gills
- D. buccal cavity, skin, spiracle

*The correct answer is option [B]*

3. \_\_\_\_\_ are the main parts of respiration.

- A. Breathing in and breathing out
- B. Internal and external respiration
- C. Exhalation and expiration
- D. Inhalation and Inspiration

*The correct Answer is option [B].*

4. Which of the following organisms does not carry out direct respiration?

- A. Spirogyra
- B. Amoeba
- C. Hydra

D. Man

*The correct answer is option [D].*

5. Air enters into the \_\_\_\_ through the glottis?

- A. trachea
- B. oral pharynx
- C. mouth
- D. bronchis

*The correct Answer is option [A].*

6. The inner surface of the thoracic cavity and the outer surface of the lungs are lined with \_\_\_\_\_ membrane.

- A. cellulose
- B. pleural
- C. internal
- D. nuclear

*The correct Answer is option [B].*

7. When an operculate fish breathes, it takes in water through the \_\_\_\_.

- A. nose and passes it through the operculate organ
- B. mouth and passes it through the operculum
- C. operculum and passes it through the mouth
- D. operculum and passes it through the nostrils

*The correct answer is option [B]*

8. All organisms that respire aerobically take in \_\_\_\_\_.

- A. carbon(iv)oxide
- B. air

C. carbon(ii)oxide

D. oxygen

*The correct answer is option [D].*

9. Cutaneous respiration is also known as \_\_\_\_\_ respiration.

A. mouth

B. gills

C. skin

D. none of the above

*The correct answer is option [C].*

10. The \_\_\_\_\_ and \_\_\_\_\_ form the respiratory structure.

A. trachea and lungs

B. nostrils and nose

C. ear and nostrils

D. nose and nostrils

*The correct Answer is option [A].*

11. The respiratory system is also known as a \_\_\_\_\_.

A. gaseous exchange system

B. nitrogen exchange system

C. carbon dioxide waste

D. oxygeneous dehydration

*The correct Answer is option [A].*

12. Tissue respiration is defined as the oxidation of \_\_\_\_\_.

A. nitrogenous substances

B. magnesium by product

- C. organic food substances
- D. phosphorus

*The correct Answer is option [C].*

13. Carbon dioxide and water are regarded as \_\_\_\_\_ products of respiration.

- A. waste
- B. gaseous
- C. liquid
- D. solid

*The correct Answer is option [A].*

14. Stomata pores are opened and closed by \_\_\_\_\_.

- A. mesophyll cells
- B. mesophyll layers
- C. intercellular spaces
- D. guard cells

*The correct answer is option [D].*

15. In aquatic animals, respiration may occurs when dissolved air in water diffuses into the cells through their \_\_\_\_\_.

- A. cell wall
- B. body surface
- C. trachea
- D. air tubes

*The correct answer is option [B].*

16. Which one of the following does not use gills for respiration?

- A. Mollusc



- B. Fish
- C. Crustacean
- D. Amoeba

*The correct answer is option [D].*

17. What is the name of this diagram?



- A. Lungs
- B. Liver
- C. Kidney
- D. Mouth

*The correct Answer is option [A].*

18. Which of the following is a passage way through which the human being breaths in air?

- A. Mouth
- B. Nose
- C. Skin
- D. Lungs

*The correct Answer is option [B].*

19. Why is it possible for the skin of a frog to carry out gaseous exchange?

- A. It is possible because it is scarcely enriched with blood capillaries and kept moist by mucus secreted by glands.
- B. It is possible because it is richly supplied with blood capillaries and kept moist by mucus.

- C. It is possible because it is a frog.
- D. It is possible because it leaves in water which has a rich supply of oxygen necessary for respiration.

*The correct Answer is option [B].*

20. \_\_\_\_\_ is an infection of the alveoli.

- A. Asthma
- B. Cough
- C. Pneumonia
- D. Malaria

*The correct Answer is option [C].*

21. Which of the following statements is incorrect about respiration?

- A. Gaseous exchange occurs by diffusion.
- B. Oxygen combines with haemoglobin at the respiratory surface.
- C. Carbon dioxide is removed from the tissue by the process of osmosis.
- D. There are no special organs for respiration in plants.

*The correct answer is option [C]*

22. \_\_\_\_\_ disease is associated with cigarette smoking.

- A. Chronic bronchitis
- B. Emphysema
- C. Pulmonary
- D. Obstructive chronic

*The correct Answer is option [A].*

23. The breathing out of carbon dioxide and water vapour into the atmosphere by living organisms is called \_\_\_\_\_.

- A. respiration
- B. exhalation
- C. inspiration
- D. expiry

*The correct Answer is option [B].*

24. When an amphibious animal respire through its moist skin, it is known as \_\_\_\_.

- A. cutaneous respiration
- B. banel respiration
- C. divided respiration
- D. amphibian respiration

*The correct Answer is option [A].*

25. Green plants use \_\_\_\_ from animal respiration for photosynthesis during the day.

- A. oxygen
- B. ATP
- C. carbon (iv) oxide
- D. water

*The correct answer is option [C].*

26. Gaseous exchange takes place in the \_\_\_\_\_.

- A. bronchioles
- B. nostrils
- C. fingers
- D. alveoli

*The correct Answer is option [D].*

27. The immediate cause of emphysema is the release of \_\_\_\_\_ enzymes.

- A. proteolytic
- B. prostrate
- C. protection
- D. all enzymes

*The correct Answer is option [A].*

28. What is breathing?

- A. It is the exchange of air between oxygen and carbon dioxide in living organisms.
- B. It is the exchange of gases between the environment and the respiratory organs of a living organism.
- C. It is the removal of gases from the body.
- D. It is the absorption of gases into the body.

*The correct Answer is option [B].*

29. Tracheal tube is a respiratory structure used by \_\_\_\_\_.

- A. man
- B. insects
- C. reptiles
- D. fishes

*The correct answer is option [B].*

30. The breathing in of air or oxygen is also called \_\_\_\_\_.

- A. inhalation
- B. exhalation
- C. expiration
- D. exploration

*The correct Answer is option [A].*

31. Which of these is a suitable respiratory substrate?

- A. Glucose
- B. Lungs
- C. Heart
- D. Gills

*The correct answer is option [A].*

32. Breathing movement in mammals involves regular movements of the diaphragm and the \_\_\_\_\_.

- A. intercostal muscles
- B. vertebral column
- C. clavicle
- D. pleural cavity

*The correct answer is option [A].*

33. In vascular plants, atmospheric air enters through the \_\_\_\_\_.

- A. roots and shoot
- B. leaf tip and flower
- C. stomata and lenticels
- D. stems and stalk

*The correct answer is option [C].*

34. The respiratory structure for toads and frogs is \_\_\_\_\_.

- A. stomata
- B. nose
- C. lungs
- D. gills

*The correct answer is option [C].*

35. The respiratory structure used by earthworm is similar to that in \_\_\_\_\_.

- A. man
- B. birds
- C. frog
- D. tadpoles

*The correct answer is option [D]*

36. What is expelled during expiration?

- A. Oxygen
- B. Carbon(iv)oxide
- C. Blood
- D. Fluid

*The correct answer is option [B].*

37. Breathing in mammals occurs due to the movement of the

- (i) Ribs
- (ii) Diaphragm
- (iii) Intercoastal muscles.

- A. i. only
- B. ii and iii only
- C. i and ii only
- D. i, ii and iii

*The correct answer is option [D].*

38. In respiration, the following substances are released except \_\_\_\_\_.

- A. carbon(ii) oxide

- B. ATP
- C. water
- D. alcohol

*The correct answer is option [D].*

39. The diaphragm divides the body cavity into \_\_\_\_ and \_\_\_\_.

- A. abdominal cavity and thoracic cavity
- B. thyroid cavity and abdominal cavity
- C. femur and humerus
- D. mammalian cavity and abdominal cavity

*The correct Answer is option [A].*

40. Which of the following is a specialized structure for respiration in complex organisms?

- A. breathing tubes
- B. gills
- C. lungs
- D. moist skin

*The correct answer is option [C]*

41. Which one of the following is not a characteristic of a respiratory surface?

- A. Large surface area
- B. Thin respiratory surface
- C. Dry surface
- D. Well ventilated surface

*The correct answer is option [C].*

42. Internal respiration could also be referred to as \_\_\_\_\_ respiration.

- A. tissue
- B. breathing in
- C. inhalation
- D. inspiration

*The correct Answer is option [A].*

43. What is respiration?

- A. It is a biochemical activity of the cell in which air is taken into the lungs.
- B. It is an act of completely expelling air from the lungs.
- C. It is a biochemical activity of the cell in which glucose is broken down to release energy.
- D. It is an acidic gaseous exchange that occurs in both green plants and animals.

*The correct Answer is option [C].*

44. Gases enter and leave the cells of an organism by \_\_\_\_\_.

- A. adsorption
- B. osmosis
- C. diffusion
- D. absorption

*The correct Answer is option [C].*

45. Frogs and toads use all of the following as respiratory organs except \_\_\_\_\_.

- A. skin
- B. mouth
- C. stomach
- D. lungs

*The correct answer is option [C].*



46. Irritation of the lungs can lead to \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- A. malaria, cough, asthma
- B. emphysema, bronchitis, fever
- C. asthma, emphysema, chronic bronchitis
- D. cigarette smoking, cough, ribs pain

*The correct Answer is option [C].*

47. The tracheal system comprises of spiracles, tracheoles and \_\_\_\_\_.

- A. tracts
- B. tracheae
- C. carbon(iv)oxide
- D. none of the above

*The correct answer is option [B].*

48. Which one of these is not a process carried out by plants?

- A. Exaspiration
- B. Transpiration
- C. Breathing
- D. Oxidation

*The correct answer is option [C].*

## TOPIC: THE CELL AND ITS ENVIRONMENT: PHYSICAL AND BIOPHYSICAL

***DIRECTION: Choose the correct answer from the lettered options.***

1. Diffusion and osmosis are \_\_\_\_\_ processes.

- A. passive
- B. homeostatic
- C. isotonic
- D. active

*The correct Answer is option [A].*

2. \_\_\_\_\_ is a special form of diffusion.

- A. Osmosis
- B. Permeability
- C. Plasmolysis
- D. Turgidity

*The correct Answer is option [A].*

3. Water leaves red blood cells from a region of lower to higher concentration by the process known as \_\_\_\_\_.

- A. endosmosis
- B. exosmosis
- C. plasmolysis
- D. haemolysis

*The correct answer is option [B].*

4. What is plasmolysis?

- A. It is the shrinkage of the protoplasm away from the cell wall due to water loss through osmosis.
- B. It is the uptake of liquid materials into the protoplasm of a living cell through the process of osmosis.
- C. It is the release of liquid materials from the cell cytoplasm of animal cells leading to the splitting of the cell.
- D. All of the above

*The correct Answer is option [A].*

5. Which of the following statements defines plasmolysis?

- A. Shrinking of a plant cell in a solution.
- B. Shrinking away of cytoplasm from an animal cell membrane.
- C. Shrinking away of the protoplasm of a plant cell as a result of loss of water from the cell.
- D. Shrinking of the vacuole while leaving the cytoplasm attached to the cell wall.

*The correct answer is option [C]*

6. Which of the following is a passive process?

- A. Endocytosis
- B. Osmosis
- C. Exocytosis
- D. Active transport

*The correct Answer is option [B].*

7. Water vapour is lost in plants during transpiration through the \_\_\_\_.

- A. stomata and lenticels
- B. xylem and stomata
- C. sclerenchyma and stomata
- D. parenchyma and lenticels

The correct answer is option [A]

8. The movement of molecules of gases or liquids without a semi permeable membrane is \_\_\_\_\_.

- A. hemolysis
- B. plasmolysis
- C. diffusion
- D. osmosis

*The correct answer is option [C]*

9. When a plant loses more water than it gains and becomes weak, it is said to be \_\_\_\_\_.

- A. osmotic
- B. isotonic
- C. turgid
- D. flaccid

*The correct Answer is option [D].*

10. The main reason why rotten eggs should be separated from fresh eggs is that \_\_\_\_\_.

- A. foul air from the rotten eggs could easily diffuse through the shells of fresh eggs
- B. when both the rotten and fresh egg touch each other, there will be a transfer of the white into each other, thereby contaminating the fresh egg
- C. it is difficult to get rid of foul air on egg shells
- D. fresh eggs becomes yolk free when air from the rotten egg diffuses into it

*The correct answer is option [A]*

11. The removal of waste products in a small organism such as amoeba is by \_\_\_\_\_.

- A. diffusion
- B. osmosis
- C. excretion

D. all of the above

*The correct answer is option [A].*

12. Diffusion occurs in \_\_\_\_\_.

A. living things only

B. non living things only

C. both living and non living things

D. animal cells only

*The correct answer is option [C]*

13. One major difference between osmosis and diffusion is the presence of \_\_\_\_.

A. fluid

B. molecules

C. semi permeable membrane

D. none of the above

*The correct answer is option [C]*

14. A plant cell in a more hypotonic solution will absorb water by \_\_\_\_\_.

A. haemolysis

B. endosmosis

C. osmotic pressure

D. exosmosis

*The correct Answer is option [B].*

15. When cells are immersed in strong saline or sugar solutions, it causes \_\_\_\_\_.

A. exosmosis

B. endosmosis

C. excosmosis

D. None of the above

*The correct Answer is option [A].*

16. While diffusion occurs in both living and non living things, osmosis occurs in \_\_\_\_\_ things only.

A. living

B. non living

C. some living and non living

D. none of the above

*The correct answer is option [A].*

17. \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ can affect diffusion.

A. State of matter, temperature, molecular size

B. Mole content, temperature, molecular size

C. Concentration, state of matter, mole content

D. temperature, molecular size, molecular colour

*The correct answer is option [A]*

18. In plant roots \_\_\_\_\_ is transported through the cell membrane by osmosis.

A. cell sap

B. carbon-dioxide

C. oxygen

D. water

*. The correct answer is option [D] Plant cells have a semi-permeable membrane that allows water molecules to pass through*

19. \_\_\_\_\_ is a force that draws water into the cell.

A. Osmosis

B. Turgor

- C. Osmotic pressure
- D. Cell pressure

*The correct Answer is option [C].*

20. \_\_\_\_\_ pressure is caused by the difference in concentration of two solutions that are separated by a semi permeable membrane.

- A. Diffusion
- B. Osmotic
- C. Turgor
- D. Normal

*The correct Answer is option [B].*

21. In an isotonic cell, the surrounding fluid has \_\_\_\_\_.

- A. the same concentration with the cell contents
- B. a higher concentration than the cell contents
- C. a lower concentration than the cell contents
- D. a continuously changing concentration

*The correct Answer is option [A].*

22. The uptake of solid materials into the cell by engulfing is known as \_\_\_\_.

- A. phagocytosis
- B. osmosis
- C. plasmolysis
- D. active transport

*The correct Answer is option [A].*

23. What is turgor pressure?

- A. The pressure exerted by water in the cell against the cell wall that gives support to the plant.
- B. A hydrostatic pressure caused by a concentration difference between solutions that are separated by a semi-permeable membrane.
- C. It is the excess water that is stored in the bark of a tree.
- D. It is the shrinkage of the protoplasm away from the wall of a living plant caused by loss of water through osmosis.

*The correct Answer is option [A].*

24. Plasmolysis can be of \_\_\_\_ types.

- A. 4
- B. 3
- C. 2
- D. 5

*The correct Answer is option [C].*

25. \_\_\_\_\_ increases the speed at which molecules move.

- A. Temperature
- B. Light
- C. Darkness
- D. Water

*The correct Answer is option [A].*

26. In haemolysis, the shrinking of the red blood cells is called \_\_\_\_\_.

- A. haemolytic shrinking
- B. haemolytic compactment
- C. haemolytic pressure
- D. crenation



The correct answer is option [D].

27. If the concentration of salt in the plasma falls, water enters the red blood cells by \_\_\_\_\_.

- A. diffusion
- B. osmosis
- C. osmotic pressure
- D. exosmosis

*The correct answer is option [B].*

28. Cell shrinkage can be caused by \_\_\_\_\_.

- A. isotonicity
- B. endosmosis
- C. exosmosis
- D. hypotonicity

*The correct Answer is option [C].*

29. Which of the following statements is incorrect about Spirogyra?

- A. It is a simple multicellular organism.
- B. It is regarded as a plant and an animal.
- C. It possesses spiral chloroplast which enables the plant to photosynthesize.
- D. Its cells are protected by a layer of mucilage.

*The correct answer is option [B]*

30. For diffusion to occur in a medium there must be a \_\_\_\_\_ in the concentration of the substance in two areas.

- A. addition
- B. difference

C. multiplication

D. division

*The correct Answer is option [B].*

31. Digested food enters saprophytic plants such as mucor by \_\_\_\_\_.

A. osmosis

B. crenation

C. diffusion

D. plasmolysis

*The correct answer is option [C].*

32. Turgidity can also be referred to as \_\_\_\_\_.

A. diffusion gradient

B. turgor pressure

C. osmotic potential

D. osmotic pressure

*The correct Answer is option [B].*

33. \_\_\_\_\_ is the bursting of red blood cells in the plasma.

A. Plasmolysis

B. Haemolysis

C. Crenation

D. Exosmosis

*The correct answer is option [B].*

34. What is osmosis?

A. It is the movement of molecules from a region of dilute solution to a region of strong solution.

B. It is defined as the flow of water or solvent molecules from a region of dilute solution to a region of strong solution through a selectively permeable membrane.

C. It is the movement of water molecules from a solid to liquid through a semi permeable membrane.

D. It is the opposite of active diffusion.

The correct Answer is option [B].

35. \_\_\_\_ is the movement of molecules from a region of higher concentration to a region of lower concentration.

A. Diffusion

B. Transpiration

C. Osmosis

D. Translocation

*The correct answer is option [A]*

36. Haemolysis leads to \_\_\_\_\_ which may eventually cause death if not checked.

A. anaemia

B. fever

C. malaria

D. none of the above

*The correct answer is option [A].*

37. \_\_\_\_\_ pressure is developed by a more concentrated solution when water moves into it through a semi permeable membrane.

A. Sugar

B. Salt

C. Diffusion

D. Osmotic

*The correct answer is option [D]*

38. What is hemolysis?

- A. The bursting of erythrocytes causing the release of hemoglobin into the surrounding fluid.
- B. The bursting of the body cell causing the release of cytoplasmic contents into the surrounding fluid.
- C. The bursting of leucocytes causing the release of hemoglobin into the surrounding fluid.
- D. It is the opening of the cytoplasm to release cells.

*The correct Answer is option [A].*

39. The pressure which a solution can potentially exert is called its \_\_\_\_.

- A. osmotic pressure
- B. diffusion potential
- C. diffusion pressure
- D. osmotic potential

*The correct Answer is option [D].*

40. Which one of the following factors helps to speed up diffusion rate?

- A. High pressure
- B. High temperature
- C. Expanded volume rate
- D. Nature of the container

*The correct answer is option [B].*

41. Which of the following is not an evidence of diffusion in plants?

- A. Entrance of carbon dioxide through stomata of leaves into the plant.
- B. Exit of oxygen through the stomata of leaves into the environment.
- C. Absorption of soil water through the roots into the plant.
- D. Release of water vapour to the exterior environment.

*The correct Answer is option [C].*

42. A mechanical process whereby certain molecules are filtered under external pressure through a membrane is known as \_\_\_\_\_.

- A. filtration
- B. excretion
- C. absorption
- D. exaspiration

*The correct answer is option [A].*

43. The absorption of water from the large intestine is by \_\_\_\_\_.

- A. osmosis
- B. diffusion
- C. osmotic pressure
- D. turgidity

*The correct answer is option [A].*

44. A solution which loses water in osmosis is said to be \_\_\_\_.

- A. hypertonic
- B. hypotonic
- C. hyponic
- D. hypernic

*The correct answer is option [B].*

45. \_\_\_\_\_ is not a means of transportation across the plasma membrane.

- A. Active transport
- B. Endocytosis
- C. Capillary action

D. Exocytosis

*The correct Answer is option [C].*

46. When a diffused substance is heated, the molecules of the substance move \_\_\_\_.

A. slower

B. faster

C. jumps about

D. breaks into atoms

*The correct answer is option [B]*

47. Osmosis can best be defined as the movement of \_\_\_\_.

A. molecules from a solution of high concentration to low concentration

B. molecules from a solution of lower chemical concentration to a solution of higher chemical concentration

C. water salt from a solution of higher concentration to a solution of lower concentration

D. water molecules across a semi-permeable membrane from a solution of higher concentration to lower concentration

*The correct answer is option [D]*

48. Flaccidity is \_\_\_\_\_.

A. defined as a condition in which plants gain water from their environment

B. defined as the condition in which plants lose water to their surrounding faster than they can absorb, thereby making the cell weak

C. a situation whereby plants are gaining water constantly

D. an ailing situation

*The correct Answer is option [B].*

49. When a plant shoot is placed in a dye solution, under which of the following physical conditions will the dye move up the stem better?

- A. High temperature and low humidity
- B. Low temperature and high humidity
- C. Low temperature and low humidity
- D. High temperature and high humidity

*The correct answer is option [A]*

## TOPIC: TISSUES AND SUPPORTING SYSTEMS: SKELETON AND SUPPORT

***DIRECTION: Choose the correct answer from the lettered options.***

1. The appendicular skeleton is made up of the bones of the \_\_\_\_\_.

- A. fore-limbs, hind-limbs and pelvic girdles
- B. fore-limbs, hind-limbs and pelvic limbs
- C. fore-girdle, hind-limbs and pelvic girdles
- D. pelvic girdles, fore and hind

*The correct answer is option [A].*

2. The thoracic cavity is separated from the abdominal cavity by a muscle sheet called \_\_\_\_\_.

- A. pleural membrane
- B. intercostal muscle
- C. diaphragm
- D. epiglottis

*The correct answer is option [C]*

3. Which of the following is not a function of the mammalian skeleton?

- A. It gives the body its shape.
- B. It provides a frame work to support the internal organs.
- C. It contracts and relaxes to bring about movement.
- D. It provides attachment for muscles.

*The correct answer is option [C]*

4. \_\_\_\_\_ is a characteristic of animals with exoskeleton.

- A. Blood shed
- B. Skeletal enlargement



- C. Skeletal shrinkage
- D. Periodic molting

*The correct Answer is option [D].*

5. Which of the following statements is true about movement of the forearm?

- A. When bending the arm, the biceps relax and the triceps contract.
- B. When bending the arm, biceps contract and the triceps relax.
- C. When straightening the arm, the biceps contract and the triceps relax.
- D. When straightening the arm, both biceps and triceps contract.

*The correct answer is option [B]*

6. In woody stems, gaseous exchange takes place through the \_\_\_\_\_.

- A. micropyles
- B. stomata
- C. lenticels
- D. vessels

*The correct answer is option [C]*

7. The outer skeleton of animals is called \_\_\_\_\_.

- A. endoskeleton
- B. hydrostatic skeleton
- C. exoskeleton
- D. major skeleton

*The correct Answer is option [C].*

8. The function of the human red blood cells is to \_\_\_\_\_.

- A. make antibodies
- B. carry oxygen

- C. absorb heat
- D. destroy bacteria

*The correct answer is option [B]*

9. Which of the following statements is incorrect about the functions of each group of mammalian vertebrae?

- A. Cervical vertebrae support the neck.
- B. Thoracic vertebrae articulate with the ribs.
- C. Lumbar vertebrae provide attachment for abdominal muscles.
- D. Sacral vertebrae support the skull and allows nodding and rotating movements.

*The correct answer is option [D]*

10. The vascular bundles are made up of \_\_\_\_ and \_\_\_\_.

- A. xylem, cortex
- B. phloem, sieve tube
- C. cambium, sclereids
- D. xylem, phloem

*The correct answer is option [D].*

11. Few phloem bundles are found in \_\_\_\_.

- A. dicot root
- B. monocot root
- C. dicot leaf
- D. monocot leaf

*The correct answer is option [A].*

12. The bones of the digits are called \_\_\_\_.

- A. fingers

- B. carpals
- C. metacarpals
- D. phalanges

*The correct answer is option [D].*

13. The scapula and the ischium are parts of the \_\_\_\_\_.

- A. pectoral girdle
- B. pelvic girdle
- C. appendicular skeleton
- D. hind limb

*The correct answer is option [C]*

14. Evidence that a tooth is a living part of the mammalian body can be found within the \_\_\_\_\_.

- A. gum
- B. pulp cavity
- C. cement
- D. enamel

*The correct answer is option [B]*

15. Molting is also known as \_\_\_\_\_.

- A. ecdysis
- B. mating
- C. movement
- D. camouflage

*The correct Answer is option [A].*

16. The stems of young herbaceous plants are kept upright mainly by \_\_\_\_.

- A. osmotic pressure
- B. turgor pressure
- C. transpiration pull
- D. suction pressure

*The correct answer is option [B]*

17. The response of plants to external stimuli in a non-directional manner is known as \_\_\_\_.

- A. tactic movement
- B. phototropism
- C. geotropism
- D. nastic movement

*The correct answer is option [D]*

18. The size of the cortex found in the dicot stem is \_\_\_\_\_.

- A. narrow
- B. wide
- C. minute
- D. none of the above

*The correct answer is option [B].*

19. In cold condition, the mammalian body reacts in the following ways except \_\_\_\_.

- A. shivering
- B. vasodilation
- C. vasoconstriction
- D. increasing metabolic rate

*The correct answer is option [B] Vasodilation causes a large volume of blood to flow near the surface of the skin so that heat is lost to the surroundings.*

20. What is a skeleton?

- A. It is the fleshy part of the body that protects the internal organ of the body.
- B. It is the fluid filled part of the body responsible for movement and good posture.
- C. It is the bony framework of the body that produces support.
- D. It is the most essential part of the body.

*The correct Answer is option [C].*

21. The hardest substance in the body of man is the \_\_\_\_\_.

- A. tooth
- B. bone
- C. all of the above
- D. none of the above

*The correct answer is option [A].*

22. Animals with the chitin type of skeleton can only grow by \_\_\_\_\_.

- A. feeding on unbalanced diet
- B. ecdysis
- C. giving birth
- D. laying eggs

*The correct Answer is option [B].*

23. The bone consists of living bone cells called \_\_\_\_ and protein fibres called\_\_\_\_\_.

- A. osteocytes, collagen
- B. collagen, osteocytes
- C. osteocytes, cartilage
- D. leucocytes, collagen

*The correct Answer is option [A].*

24. Which of the following structures is capable of producing more tissues in the stem of herbaceous plants?

- A. Epidermis
- B. Pericycle
- C. Xylem
- D. Cambium

*The correct answer is option [D] In dicots, the cambium is responsible for secondary growth.*

25. The three main types of skeleton in animals are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- A. ectoskeleton, endoskeleton, hydroskeleton
- B. ectoplast, endoplast, hydroplast
- C. endoskeleton, hydrostatic skeleton, exoskeleton
- D. ectoderm, endoderm, mesoderm

*The correct Answer is option [C].*

26. Storage of food and water in plants is a function of the \_\_\_\_\_.

- A. collenchyma
- B. parenchyma
- C. sclerenchyma
- D. pericycle

*The correct answer is option [B].*

27. The process by which cartilage tissues harden into bone due to the addition of minerals is described as \_\_\_\_\_.

- A. hydrogenation
- B. ossification
- C. mineralisation

D. regeneration

*The correct Answer is option [B].*

28. Protoxylem points towards the pith of the stem while in the root, it points towards the \_\_\_\_\_.

A. apex

B. middle

C. cortex

D. cambium

*The correct answer is option [C].*

29. In mammals there are \_\_\_\_\_ kinds of cartilages.

A. 4

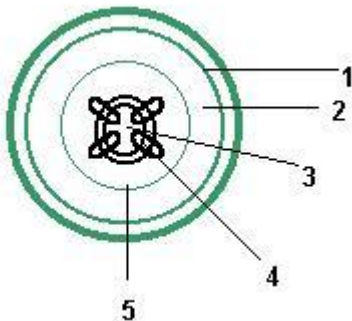
B. 2

C. 5

D. 3

*The correct Answer is option [D].*

30. Which of the labelled tissues in the figure is responsible for the transport of mineral salts and water in a living plant?



A. 1

B. 2

C. 3

D. 4

*The correct answer is option [C] The part labelled "3" is called Xylem.*

31. Stomata is present in \_\_\_\_\_.

A. stems only

B. both stems and leaves

C. leaves only

D. neither stems nor leaves

*The correct answer is option [B].*

32. Which of the following are forms of skeletal materials?

A. Fingernails, cuticles and cartilage

B. Cuticles, cartilage and bones

C. Nails, toes and fingers

D. All bones

*The correct Answer is option [B].*

33. Osteocytes is another name for \_\_\_\_\_.

A. living dead cells

B. living bone cells

C. dead cells

D. living skin

*The correct Answer is option [B].*

34. The vertebrae that bear a considerable weight of the body is known as the \_\_\_\_\_ vertebrae.

A. cervical



- B. lumbar
- C. thoracic
- D. sacral

*The correct answer is option [B].*

35. Which of the following consists of dead cells?

- A. Meristematic cells
- B. Xylem vessels
- C. Cambium
- D. Mesophyll

*The correct answer is option [B]*

36. \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ are the different kinds of cartilages in mammals.

- A. Tissues, organs, capillaries
- B. Hyaline, fibro, elastic
- C. Tyalin, thyroid, organs
- D. Thyroid, blood, fibro

*The correct Answer is option [B].*

37. Collenchyma, parenchyma and starch sheath makes up the \_\_\_\_\_

- A. piliferous layer
- B. endodermis
- C. root hairs
- D. cortex

*The correct answer is option [D].*

38. Chitin is strengthened by deposits of \_\_\_\_\_ and \_\_\_\_\_.

- A. carbohydrate, cellulose

- B. hardened proteins, minerals
- C. vitamins, minerals
- D. carbon, hydrogen

*The correct Answer is option [B].*

39. The parenchyma cells in the space between two vascular bundles are called \_\_\_\_\_.

- A. pith
- B. fibres
- C. medullary rays
- D. walls

*The correct answer is option [C].*

40. Which of the following plays the role of strengthening the plant?

- A. Phloem and epidermis
- B. Parenchyma and cambium
- C. Collenchyma and sclerenchyma
- D. Collenchyma and cambium

*The correct answer is option [C] Collenchyma consists of living cells thickened at the corners by the deposition of extra cellulose. Sclerenchyma consist of dead cells with cell walls heavily thickened with deposits of lignin.*

41. Long neural spine is a characteristic feature of \_\_\_\_\_ vertebra.

- A. axis
- B. cervical
- C. atlas
- D. thoracic

*The correct answer is option [D].*

42. \_\_\_\_\_ and \_\_\_\_\_ bring about body movement and locomotion.

- A. Blood, muscles
- B. Bones, muscles
- C. Bone, water
- D. Finger, muscles

*The correct Answer is option [B].*

43. The two bones in the lower arm are the \_\_\_\_\_ and \_\_\_\_\_.

- A. tibia, fibula
- B. radius, ulna
- C. humerus, ulna
- D. humerus, femur

*The correct answer is option [B].*

44. The presence of endoskeleton is a characteristic of \_\_\_\_\_.

- A. invertebrata
- B. vertebrata
- C. insecta
- D. coelenterata

*The correct answer is option [B]*

45. Centrum is a bone found in the \_\_\_\_\_.

- A. facial bone
- B. cervical vertebrae
- C. vertebral column
- D. atlas vertebra

The correct answer is option [C].

46. What happens in the process of molting?

- A. The organism sheds off its old skeleton and puts on a new one.
- B. The organism goes into torpor for a while.
- C. The organism goes into aestivation and give birth to their young one.
- D. The organism becomes inactive for a while until favourable conditions returns.

*The correct Answer is option [A].*

47. How many types of skeletal materials can be found in animals?

- A. 3
- B. 5
- C. 4
- D. 2

*The correct answer is option [A]. Cuticles (Chitin), bones and cartilages.*

48. The control of the activities of the sieve tubes is carried out by the \_\_\_\_\_.

- A. cambium
- B. companion cells
- C. vascular bundles
- D. cortex

*The correct answer is option [B].*

49. Arthropod cuticles are composed of a protein called \_\_\_\_\_.

- A. chitin
- B. melanin
- C. keratin
- D. cartilage

*The correct answer is option [A]*

50. Which of the following does not offer support in plants?

- A. Meristem
- B. Sclerenchyma
- C. Collenchyma
- D. Xylem

*The correct answer is option [A] The meristem is a region of active cell-division which gives rise to various tissues such as the epidermis and cortex.*

51. Which of the following is not a function of the skeleton?

- A. Gives shape
- B. Aids movement
- C. Gives support
- D. Gives colour

*The correct Answer is option [D].*

52. Which organ removes the largest quantity of water from the blood?

- A. Lung
- B. Intestine
- C. Kidney
- D. Skin

*The correct answer is option [C]*

53. Soft bodied animals like earthworms use \_\_\_\_\_ to provide support.

- A. fluid pressure
- B. osmotic pressure
- C. air pressure
- D. concentration gradient

*The correct Answer is option [A].*

54. Muscles are attached to bones by means of \_\_\_\_\_.

- A. ligaments
- B. cartilage
- C. connective tissues
- D. tendons

*The correct answer is option [D].*

55. The upward transport of water and mineral salts is a function of \_\_\_\_\_.

- A. xylem
- B. phloem
- C. cortex
- D. tracheids

*The correct answer is option [A].*

56. Which of the following provides the best surface for diffusion?

- A. Skin
- B. Stomach
- C. Alveolus
- D. Oesophagus

*The correct answer is option [C] The alveoli provide a large surface area for diffusion due to their one-cell thick, elastic walls lined by a film of moisture.*

57. \_\_\_\_\_ is made up of a series of plates or tubes attached at the joints by sheets of unmodified chitin.

- A. Endoskeleton
- B. Exoskeleton

- C. Hydrostatic skeleton
- D. Exoskeleton

*The correct Answer is option [C].*

58. Which of the following constitutes the cellular components of the mammalian blood?

- I. - Haemoglobin
- II. - Erythrocytes
- III. - Leucocytes
- IV. - Platelets

- A. I, II and III
- B. I, III and IV
- C. II, III and IV
- D. I, II, III and IV

*The correct answer is option [C]*

59. In plants, different tissues provide support due to the following characteristics except \_\_\_\_.

- A. malleability
- B. rigidity
- C. flexibility
- D. resilience

*The correct answer is option [A]*

60. Which vertebra has a major projection called odontoid process?

- A. Atlas
- B. Axis
- C. Thoracic

D. Lumbar

*The correct answer is option [B] The odontoid process serves as a pivot point for the rotation of the atlas (first cervical vertebra), enabling the head to turn.*

61. \_\_\_\_\_ is formed in the skeleton of complex vertebrates.

A. Chitin

B. Fibre

C. Cartilage

D. Bones

*The correct Answer is option [C].*

62. The following are types of skeletons found in animals except \_\_\_\_\_.

A. exoskeleton

B. endoskeleton

C. appendix skeleton

D. hydrostatic skeleton

*The correct answer is option [C].*

63. Which of the following groups carry out similar functions in living things?

A. Vertebral column, chitin and guard cells

B. Sclerenchyma, cartilage and chitin

C. Tendon, chitin and neutron

D. Collenchyma, intercellular spaces and blood vessels

*The correct answer is option [B] Sclerenchyma, cartilage and chitin are supporting tissues.*



## TOPIC: TRANSPORT SYSTEM

***DIRECTION: Choose the correct answer from the lettered options.***

1. The vein, which returns blood from the head and arms to the heart is called \_\_\_\_\_.

- A. aorta
- B. inferior vena cava
- C. superior vena cava
- D. pulmonary vein

*The correct answer is option [C]*

2. Vertebrates without vascular systems use \_\_\_\_\_ as a medium of transportation.

- A. body fluid
- B. flame cells
- C. coelomic fluid
- D. haemocoel fluid

*The correct answer is option [A].*

3. \_\_\_\_\_ is the liquid component of the blood.

- A. Plasma
- B. Hormonal secretion
- C. Leucocyte
- D. Cell sap

*The correct Answer is option [A].*

4. The fluid portion of the blood is called \_\_\_\_\_.

- A. water
- B. body fluid
- C. plasma

D. capillary fluid

*The correct answer is option [C].*

5. The lymphocytes produce \_\_\_\_\_.

A. malaria

B. fever

C. antibodies

D. oxygen

*The correct Answer is option [C].*

6. There are \_\_\_\_\_ types of white blood cells.

A. 3

B. 4

C. 2

D. 1

*The correct Answer is option [C].*

7. Movement of the lymph is enhanced by \_\_\_\_\_.

A. the actions of the muscles

B. actions of blood vessels

C. removal of water

D. removal of body fluid

*The correct Answer is option [A].*

8. The two types of white blood cells are called \_\_\_\_\_ and \_\_\_\_\_.

A. phagocytes and lymphocytes

B. limocytes and phagocytes

C. zerocytes and lymphocytes

D. red blood cells

*The correct Answer is option [A].*

9. Which of the following are basic mediums of transportation in living organisms?

A. Cytoplasm, water, urea

B. Cell sap, latex, urine

C. Cell sap, blood, lymph

D. Lymph, blood, skin

*The correct Answer is option [C].*

10. The pulmonary vein carries \_\_\_\_\_.

A. oxygenated blood from the right auricle to the lungs

B. oxygenated blood from the lungs to the left auricle

C. deoxygenated blood from the lungs to the right auricle

D. oxygenated blood from the lungs to the right auricle

*The correct answer is option [B]*

11. The red blood cell is a suitable transportation medium due to its \_\_\_\_\_.

A. low surface area to volume ratio

B. high surface area to volume ratio

C. strength to volume ratio

D. size to pressure ratio

The correct answer is option [B].

12. Each white blood cell has a nucleus and lacks \_\_\_\_\_.

A. lymphocyte

B. monocyte

C. haemoglobin

D. lobed nucleus

*The correct answer is option [C].*

13. Auxins in plants and animals are carried from the site of production to target tissues by \_\_\_\_\_.

A. respiratory system

B. excretory system

C. reproductive system

D. transport system

*The correct answer is option [D].*

14. The chamber of the mammalian heart with the thickest wall is the \_\_\_\_\_.

A. right ventricle

B. left auricle

C. right auricle

D. left ventricle

*The correct answer is option [D].*

15. Non nucleated and colourless tiny fragments of blood cells are called \_\_\_\_\_.

A. platelets

B. monocyte

C. granulocytes

D. lymphocytes

*The correct answer is option [A].*

16. Which of the pairs of organs is located in the thoracic cavity of the mammalian body cavity?

A. Kidneys and testis

- B. Heart and ovary
- C. Lungs and heart
- D. Kidneys and rectum

*The correct answer is option [C]*

17. In active transport, molecules move against a concentration gradient, therefore, \_\_\_\_\_.

- A. molecules move from a region of low concentration to a region of high concentration
- B. molecules move from a region of high concentration to a region of low concentration
- C. the concentration gradient has little effect on the movement of molecules
- D. molecules force their way through special channels

The correct answer is option [A]

Active transport always requires energy.

18. Red blood cells are produced by the cells of the \_\_\_\_\_.

- A. intestine
- B. cell sap
- C. bone marrow
- D. cartilage

*The correct answer is option [C].*

19. Red blood cells can survive in the body because \_\_\_\_\_.

- A. blood plasma and the red blood cells are isotonic
- B. red blood cells are hypotonic to the plasma
- C. red blood cells are hypertonic to the blood plasma
- D. red blood cells contain digested nutrients

The correct answer is option [A]

20. Metabolic wastes such as ammonia leave the body of some aquatic animals into the surrounding water by simple \_\_\_\_\_.

- A. expulsion
- B. defecation
- C. regurgitation
- D. diffusion

*The correct answer is option [D].*

21. Transport systems in plants and animals refers to the \_\_\_\_\_.

- A. movement of metabolic materials from various parts of the organism
- B. circulation of water to all parts of the internal organs of the body
- C. movement of arterial blood to all parts of the body
- D. movement of the entire human body from one place to another

*The correct Answer is option [A].*

22. The heartbeat of the mammalian heart is caused by the \_\_\_\_\_ of the four muscular chambers of the heart.

- A. upwards and downwards movement
- B. backward and forward movement
- C. alternate contraction and relaxation
- D. alternate constriction and restriction

*The correct answer is option [C].*

23. The \_\_\_\_\_ is a two layered body organism, enclosed in a huge gut cavity.

- A. Amoeba
- B. Paramecium
- C. Euglena
- D. Hydra

*The correct Answer is option [D].*

24. The streaming of cytoplasm in cell serves as a medium of \_\_\_\_\_ in unicellular organisms.

- A. transportation
- B. movement
- C. diffusion
- D. excretion

*The correct answer is option [A].*

25. Platelets aids the \_\_\_\_\_.

- A. blocking of blood
- B. clotting of blood
- C. screening of blood
- D. skipping of blood

*The correct Answer is option [B].*

26. What is the basic component of cell sap and latex?

- A. Fluid
- B. Blood
- C. Water
- D. Lymph

*The correct answer is option [C].*

27. What are the means by which the blood defends the body against disease causing organisms?

- A. Clumping, neutralisation, engulfing and clotting
- B. Thrombing, cleaning, fighting, protecting
- C. Clumping, neutralisation, natralisation, decantation
- D. Clotting alone

*The correct Answer is option [A].*

28. Which one of the following materials is not transported in plants?

- A. Carbon dioxide
- B. Manufactured food
- C. Water
- D. Excretory products

*The correct Answer is option [A].*

29. In what kind of circulatory system is blood pumped directly into the body spaces?

- A. Open circulation
- B. Closed circulation
- C. Semi-open circulation
- D. Reverse circulation

*The correct Answer is option [A].*

30. The \_\_\_\_\_ divides the heart into the right and left heart.

- A. cardiac muscles
- B. bicuspid valve
- C. septum
- D. chordac tendinae

*The correct answer is option [C].*

31. The nucleus of lymphocyte is round, while that of monocyte is \_\_\_\_\_.

- A. flat
- B. kidney-shaped
- C. spiral shaped
- D. lobed shaped



*The correct answer is option [B].*

32. Fatty acids dissolved in lymph are emptied into the \_\_\_\_\_ for further transportation to the liver.

- A. blood
- B. coelomic fluid
- C. lymph fluid
- D. none of the above

*The correct answer is option [A].*

33. In the earthworm, the body fluid in the \_\_\_\_\_ serves as the main transport medium.

- A. body
- B. intestine
- C. nephridia
- D. coelom

*The correct answer is option [D].*

34. Which one of the following is not a medium of transportation in living things?

- A. Cytoplasm
- B. Plastoplasm
- C. Water
- D. Body fluid

*The correct answer is option [B].*

35. Blood platelets can be referred to as \_\_\_\_\_.

- A. thrombocytes
- B. leucocytes

C. thrombocytes

D. leucocytes

*The correct Answer is option [A].*

36. The antibodies produced by the lymphocytes in the body fights off \_\_\_\_\_.

A. foreign organisms

B. man

C. nutrients

D. headaches

*The correct Answer is option [A].*

37. When a blood vessel is damaged and exposed to air, platelets in the blood stream releases an enzyme known as \_\_\_\_\_.

A. thrombin

B. prothrombin

C. thrombokinase

D. adrenalin

*The correct answer is option [C].*

38. In large and more complex organisms, surface area is comparatively smaller than the volume. Thus \_\_\_\_\_.

A. the surface area to volume ratio is high

B. the surface area to volume ratio is low

C. the surface area to volume ratio is moderate

D. none of the above

*The correct answer is option [B].*

39. Which of the following sets of materials are not transported in animals?

- A. Oxygen, urea
- B. Vitamins, sugars
- C. Water, amino acids
- D. Blood, acid

*The correct Answer is option [D].*

40. Aside from transporting cells, lymph also transports \_\_\_\_.

- A. fats from the digestive system
- B. fats from blood
- C. minerals from respiratory system
- D. removal of body fluid

*The correct Answer is option [A].*

41. Transportation in lower organisms is through \_\_\_\_.

- A. degradation
- B. direction
- C. diffusion
- D. defecation

*The correct Answer is option [C].*

42. Which one of the following is a medium of transportation in all organisms?

- A. Fluid
- B. Excreta
- C. Wax
- D. Oxygen

*The correct Answer is option [A].*

43. In an adult mammalian blood, the cells which lack nuclei are the \_\_\_\_\_.

- A. erythrocytes
- B. granulocytes
- C. leucocytes
- D. agranulocytes

*The correct answer is option [A]*

44. Which one of the following is not a transport medium in man and most vertebrates?

- A. Lymph
- B. Plasma
- C. Blood
- D. Cell sap

*The correct answer is option [D].*

45. The inability of blood to clot easily in some persons is called \_\_\_\_\_.

- A. thrombocytes
- B. basophils
- C. neutrophils
- D. haemophilia

*The correct answer is option [D].*

46. Which of the following glands secrete a substance into the blood stream of a frightened person?

- A. Adrenal glands
- B. Salivary glands
- C. Gastric glands
- D. Parathyroid gland

*The correct answer is option [A] In emergency situations, the adrenal glands produce adrenaline and noradrenaline which prepare the body for immediate action.*