

Class 10th BIOLOGY

MCQs:

Chapter # 10 & 11

1. Which structure prevents food from entering the windpipe?

- A. Larynx
- B. Trachea
- C. Epiglottis
- D. Alveoli

(Correct Answer: C)

2. The normal breathing rate of a healthy adult at rest is:

- A. 5-10 times per minute
- B. 30-40 times per second
- C. 50-60 times per minute
- D. 12-20 times per minute

(Correct Answer: D)

3. What is the main function of alveoli in the lungs?

- A. Producing enzymes
- B. Gas exchange
- C. Filtering blood
- D. Storing carbon dioxide

(Correct Answer: B)

4. Which organ helps in excretion of carbon dioxide?

- A. Liver
- B. Lungs
- C. Pancreas
- D. Kidneys

(Correct Answer: B)

5. The inflammation of bronchi is called:

- A. Pneumonia
- B. Emphysema
- C. Asthma
- D. Bronchitis

(Correct Answer: D)

6. What is the main excretory organ in humans?

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

(Correct Answer: A)

7. The structural and functional unit of kidney is:

- A. Alveolus
- B. Nephron
- C. Glomerulus
- D. Ureter

(Correct Answer: B)

8. Which muscle plays a major role in breathing?

- A. Cardiac muscle
- B. Diaphragm
- C. Intercostal muscle
- D. Smooth muscle

(Correct Answer: B)

9. The presence of glucose in urine is an indication of:

- A. Diabetes
- B. Kidney failure
- C. Liver damage
- D. Anemia

(Correct Answer: A)

10. The percentage of oxygen in inhaled air is:

- A. 21%
- B. 16%
- C. 78%
- D. 10%

(Correct Answer: A)

11. Which gas is released by plants at night, making it unhealthy to sleep under a tree?

- A. Carbon dioxide
- B. Oxygen
- C. Nitrogen
- D. Hydrogen

(Correct Answer: A)

12. What is the function of mucus in the nasal cavity?

- A. Traps dust and microbes
- B. Produces oxygen
- C. Absorbs nutrients
- D. Pumps air

(Correct Answer: A)

13. The right kidney is slightly lower than the left because of:

- A. The heart
- B. The liver
- C. The lungs
- D. The stomach

(Correct Answer: B)

14. The part of the nephron where filtration occurs is:

- A. Glomerulus
- B. Ureter
- C. Loop of Henle
- D. Renal artery

(Correct Answer: A)

15. The urge to breathe is mainly caused by:

- A. Low oxygen levels
- B. High carbon dioxide levels
- C. Low nitrogen levels
- D. High glucose levels

(Correct Answer: B)

16. The disease caused by long-term smoking is:

- A. Pneumonia
- B. Emphysema
- C. Tuberculosis
- D. Asthma

(Correct Answer: B)

17. Which hormone controls water balance in the body?

- A. Insulin
- B. ADH (Antidiuretic Hormone)

- C. Estrogen
- D. Testosterone

(Correct Answer: B)

18. What is the function of the loop of Henle?

- A. Water reabsorption
- B. Digestion
- C. Oxygen exchange
- D. Protein breakdown

(Correct Answer: A)

19. The main function of the renal pelvis is:

- A. Blood filtration
- B. Glucose reabsorption
- C. Collecting urine from nephrons
- D. Producing enzymes

(Correct Answer: C)

20. Dialysis is used when:

- A. Lungs stop working
- B. Kidneys fail to filter blood
- C. Blood sugar is too low
- D. Liver produces too much urea

(Correct Answer: B)

21. Hemodialysis is different from peritoneal dialysis because it:

- A. Filters blood through an artificial kidney
- B. Uses the patient's peritoneum
- C. Occurs inside the lungs
- D. Filters air instead of blood

(Correct Answer: A)

22. Which part of the brain controls breathing?

- A. Medulla oblongata
- B. Cerebellum
- C. Hypothalamus
- D. Thalamus

(Correct Answer: A)

23. The main function of intercostal muscles is to:

- A. Pump blood
- B. Assist in breathing
- C. Digest food
- D. Absorb nutrients

(Correct Answer: B)

24. What is the pH of normal human urine?

- A. 2
- B. 6
- C. 9
- D. 12

(Correct Answer: B)

25. The gas exhaled in the highest concentration is:

- A. Oxygen
- B. Carbon dioxide
- C. Nitrogen
- D. Hydrogen

(Correct Answer: B)

26. The function of cilia in the trachea is to:

- A. Move mucus and trapped particles out of the lungs
- B. Absorb oxygen
- C. Store enzymes
- D. Produce carbon dioxide

(Correct Answer: A)

27. What happens when there is excessive water intake?

- A. Kidney function stops
- B. More urine is produced
- C. Urea levels increase
- D. Glucose is excreted

(Correct Answer: B)

28. Which condition is caused by high levels of uric acid in the blood?

- A. Gout
- B. Asthma
- C. Bronchitis
- D. Diabetes

(Correct Answer: A)

29. The disease in which excess fluid fills the alveoli is:

- A. Pneumonia
- B. Emphysema
- C. Bronchitis
- D. Asthma

(Correct Answer: A)

30. The percentage of nitrogen in inhaled air is:

- A. 78%
- B. 21%
- C. 10%
- D. 5%

(Correct Answer: A)

31. Which process allows oxygen to enter the blood in the lungs?

- A. Osmosis
- B. Diffusion
- C. Active transport
- D. Filtration

(Correct Answer: B)

32. The waste product of protein metabolism is:

- A. Urea
- B. Glucose
- C. Oxygen
- D. Fatty acids

(Correct Answer: A)

33. The part of the kidney where urine formation starts is:

- A. Ureter
- B. Glomerulus
- C. Renal artery
- D. Collecting duct

(Correct Answer: B)

34. The function of renal tubules in the nephron is:

- A. Reabsorption of useful substances
- B. Blood filtration
- C. Oxygen transport

D. Enzyme production

(Correct Answer: A)

35. The inflammation of the alveoli is known as:

A. Bronchitis

B. Pneumonia

C. Asthma

D. Emphysema

(Correct Answer: B)

36. The hormone responsible for stimulating the production of red blood cells is:

A. Insulin

B. Erythropoietin

C. ADH

D. Estrogen

(Correct Answer: B)

37. What happens when CO_2 concentration in the blood increases?

A. The person stops breathing

B. Breathing rate increases

C. Oxygen level rises

D. The body produces more glucose

(Correct Answer: B)

38. The layer of skin responsible for producing sweat is:

A. Epidermis

B. Dermis

C. Hypodermis

D. Basement membrane

(Correct Answer: B)

39. The functional unit of the lungs is:

A. Nephron

B. Bronchus

C. Alveolus

D. Trachea

(Correct Answer: C)

40. Which of the following is NOT filtered out of the blood by the kidneys?

A. Urea

- B. Blood cells
- C. Salts
- D. Water

(Correct Answer: B)

41. The tube that carries urine from the kidney to the bladder is:

- A. Ureter
- B. Urethra
- C. Nephron
- D. Glomerulus

(Correct Answer: A)

42. The movement of air into and out of the lungs is called:

- A. Ventilation
- B. Excretion
- C. Digestion
- D. Filtration

(Correct Answer: A)

43. What is the main role of hemoglobin in blood?

- A. Transporting oxygen
- B. Breaking down food
- C. Producing enzymes
- D. Filtering waste

(Correct Answer: A)

44. The human rib cage contains how many pairs of ribs?

- A. 10
- B. 14
- C. 12
- D. 16

(Correct Answer: C)

45. The accumulation of excess fluid in tissues is called:

- A. Edema
- B. Dialysis
- C. Homeostasis
- D. Excretion

(Correct Answer: A)

46. The hormone that increases urine production by inhibiting water reabsorption is:

- A. Insulin
- B. Diuretic hormone
- C. ADH
- D. Glucagon

(Correct Answer: B)

47. Why is breathing through the nose healthier than through the mouth?

- A. Filters, warms, and moistens air
- B. Produces more oxygen
- C. Increases breathing rate
- D. Helps in food digestion

(Correct Answer: A)

48. The part of the nephron responsible for collecting urine is:

- A. Glomerulus
- B. Loop of Henle
- C. Collecting duct
- D. Ureter

(Correct Answer: C)

49. Which of the following is an excretory product of rubber plants?

- A. Starch
- B. Latex
- C. Glucose
- D. Proteins

(Correct Answer: B)

50. How do halophytes survive in salty environments?

- A. Store excess salt in vacuoles
- B. Absorb less water
- C. Release more carbon dioxide
- D. Reduce chlorophyll production

(Correct Answer: A)

51. What is the main cause of kidney stones?

- A. Low protein diet
- B. Calcium oxalate crystals
- C. High oxygen levels
- D. Blood clotting

(Correct Answer: B)

52. The blood vessel that carries oxygenated blood from the lungs to the heart is:

- A. Pulmonary artery
- B. Pulmonary vein
- C. Aorta
- D. Renal vein

(Correct Answer: B)

53. The region of the brain that controls body temperature is:

- A. Cerebrum
- B. Hypothalamus
- C. Cerebellum
- D. Medulla oblongata

(Correct Answer: B)

54. Which of the following is NOT a function of the liver?

- A. Bile production
- B. Blood filtration
- C. Detoxification
- D. Glucose storage

(Correct Answer: B)

55. Which structure helps in closing the trachea during swallowing?

- A. Epiglottis
- B. Larynx
- C. Alveoli
- D. Bronchioles

(Correct Answer: A)

56. The exchange of gases in plants occurs through:

- A. Stomata
- B. Xylem
- C. Phloem
- D. Cuticle

(Correct Answer: A)

57. Which part of the respiratory system is called the "voice box"?

- A. Larynx
- B. Trachea

- C. Bronchi
- D. Pharynx

(Correct Answer: A)

58. The major function of the skin in excretion is:

- A. Removing excess salts and water
- B. Filtering blood
- C. Producing enzymes
- D. Transporting oxygen

(Correct Answer: A)

59. The hormone that regulates the balance of sodium and potassium in the body is:

- A. Aldosterone
- B. Insulin
- C. Glucagon
- D. ADH

(Correct Answer: A)

60. The condition where air sacs of the lungs are damaged, reducing oxygen exchange, is:

- A. Bronchitis
- B. Emphysema
- C. Pneumonia
- D. Asthma

(Correct Answer: B)

Chapters 13 & 14

1. The reproductive structure in fungi that produces spores is called:

- A. Mycelium
- B. Hyphae
- C. Sporangium
- D. Rhizoid

(Correct Answer: C)

2. In honeybees, unfertilized eggs develop into males by:

- A. Budding
- B. Regeneration
- C. Binary fission
- D. Parthenogenesis

(Correct Answer: D)

3. The process in which a single-celled organism divides into two identical daughter cells is called:

- A. Budding
- B. Binary fission
- C. Fragmentation
- D. Sporulation

(Correct Answer: B)

4. In Hydra, small outgrowths develop on the parent body and later detach to form a new individual. This is called:

- A. Budding
- B. Regeneration
- C. Grafting
- D. Parthenocarpy

(Correct Answer: A)

5. Which plant reproduces asexually through bulbs?

- A. Ginger
- B. Garlic
- C. Potato
- D. Carrot

(Correct Answer: B)

6. The technique of growing a large number of plants from a few cells in a lab is called:

- A. Tissue culture
- B. Grafting
- C. Layering
- D. Spore formation

(Correct Answer: A)

7. The spore-producing structure in bacteria is called:

- A. Cyst
- B. Sporophyte
- C. Endospore
- D. Capsule

(Correct Answer: C)

8. The fusion of male and female gametes to form a zygote is called:

- A. Fertilization
- B. Pollination

- C. Germination
- D. Budding

(Correct Answer: A)

9. The muscular system works in coordination with which system for movement?

- A. Digestive
- B. Skeletal
- C. Circulatory
- D. Respiratory

(Correct Answer: B)

10. The bones in the pelvic girdle are responsible for:

- A. Protecting the heart
- B. Supporting the lower body
- C. Moving the forearm
- D. Producing blood cells

(Correct Answer: B)

11. The structure that prevents the dislocation of bones at joints is:

- A. Ligament
- B. Tendon
- C. Cartilage
- D. Joint capsule

(Correct Answer: A)

12. The contraction of muscles occurs due to the interaction of:

- A. Actin and Myosin
- B. Ligaments and Tendons
- C. Bones and Cartilage
- D. Enzymes and Hormones

(Correct Answer: A)

13. Which type of joint allows movement in all directions?

- A. Ball and socket
- B. Hinge
- C. Pivot
- D. Gliding

(Correct Answer: A)

14. The point where two or more bones meet is called:

- A. Joint
- B. Ligament
- C. Tendon
- D. Cartilage

(Correct Answer: A)

15. The function of tendons is to connect:

- A. Bones to bones
- B. Muscles to bones
- C. Muscles to muscles
- D. Ligaments to joints

(Correct Answer: B)

16. Which part of the skeleton protects the spinal cord?

- A. Rib cage
- B. Vertebral column
- C. Pelvic girdle
- D. Skull

(Correct Answer: B)

17. The role of cartilage at the ends of bones is to:

- A. Provide flexibility
- B. Reduce friction at joints
- C. Connect muscles to bones
- D. Store minerals

(Correct Answer: B)

18. Which type of movement occurs at the elbow joint?

- A. Hinge movement
- B. Rotation
- C. Gliding
- D. Ball and socket

(Correct Answer: A)

19. What is the main function of the axial skeleton?

- A. Protecting internal organs
- B. Assisting in movement
- C. Producing red blood cells
- D. Storing calcium

(Correct Answer: A)

20. Which part of the skeleton includes the bones of arms and legs?

- A. Appendicular skeleton
- B. Axial skeleton
- C. Pelvic girdle
- D. Pectoral girdle

(Correct Answer: A)

21. Osteoarthritis is caused by:

- A. Wear and tear of cartilage
- B. Bacterial infection
- C. Lack of calcium
- D. Overproduction of bone cells

(Correct Answer: A)

22. Which structure in the human body allows flexibility and bending?

- A. Ligament
- B. Tendon
- C. Joints
- D. Cartilage

(Correct Answer: C)

23. Which plant structure is responsible for seed dispersal?

- A. Root
- B. Fruit
- C. Leaf
- D. Stem

(Correct Answer: B)

24. The cotyledons of a seed store:

- A. Water
- B. Food for the embryo
- C. Minerals
- D. Hormones

(Correct Answer: B)

25. The process of germination in which cotyledons remain underground is called:

- A. Epigeal germination
- B. Hypogeal germination
- C. Spore formation

D. Fertilization

(Correct Answer: B)

26. The function of pollen grains in plants is to:

- A. Absorb water
- B. Carry male gametes
- C. Produce food
- D. Protect seeds

(Correct Answer: B)

27. Double fertilization occurs in:

- A. Angiosperms
- B. Gymnosperms
- C. Ferns
- D. Mosses

(Correct Answer: A)

28. The female reproductive organ of a flower is called:

- A. Pistil
- B. Stamen
- C. Petal
- D. Sepal

(Correct Answer: A)

29. The function of the endosperm in seeds is to:

- A. Protect the seed coat
- B. Provide nutrients for the embryo
- C. Store water
- D. Absorb sunlight

(Correct Answer: B)

30. The function of the placenta in mammals is to:

- A. Exchange nutrients and gases between mother and baby
- B. Produce hormones
- C. Store urine
- D. Transport oxygen

(Correct Answer: A)

31. The outer covering of a seed is called:

- A. Cotyledon

- B. Seed coat
- C. Endosperm
- D. Ovary

(Correct Answer: B)

32. Which structure is responsible for absorbing water during seed germination?

- A. Radicle
- B. Plumule
- C. Cotyledon
- D. Ovule

(Correct Answer: A)

33. The part of the embryo that develops into the shoot is:

- A. Radicle
- B. Plumule
- C. Cotyledon
- D. Seed coat

(Correct Answer: B)

34. Which of the following is an example of vegetative reproduction?

- A. Seed formation
- B. Cutting and grafting
- C. Pollination
- D. Fertilization

(Correct Answer: B)

35. Which of the following is an example of a wind-pollinated flower?

- A. Rose
- B. Maize
- C. Sunflower
- D. Jasmine

(Correct Answer: B)

36. Which part of a flower develops into a fruit after fertilization?

- A. Petal
- B. Ovary
- C. Stigma
- D. Anther

(Correct Answer: B)

37. The process of seed sprouting into a new plant is called:

- A. Fertilization
- B. Pollination
- C. Germination
- D. Sporulation

(Correct Answer: C)

38. In which part of the female reproductive system of a rabbit does fertilization occur?

- A. Uterus
- B. Fallopian tube
- C. Ovary
- D. Vagina

(Correct Answer: B)

39. Which part of the male reproductive system produces sperm?

- A. Prostate gland
- B. Epididymis
- C. Testes
- D. Vas deferens

(Correct Answer: C)

40. The role of the seminal vesicle in male reproduction is to:

- A. Provide nutrients for sperm
- B. Produce sperm
- C. Transport sperm
- D. Store urine

(Correct Answer: A)

41. The function of the fallopian tube in female reproduction is to:

- A. Store eggs
- B. Transport eggs to the uterus
- C. Produce hormones
- D. Support embryo development

(Correct Answer: B)

42. The placenta is responsible for:

- A. Producing eggs
- B. Providing oxygen and nutrients to the fetus
- C. Excreting waste
- D. Producing urine

(Correct Answer: B)

43. The process of fusion of egg and sperm is called:

- A. Fertilization
- B. Pollination
- C. Germination
- D. Budding

(Correct Answer: A)

44. Which of the following helps in the delivery of the baby?

- A. Uterus contractions
- B. Ovary
- C. Fallopian tube
- D. Placenta

(Correct Answer: A)

45. Which of the following is an example of asexual reproduction?

- A. Budding in Hydra
- B. Pollination in plants
- C. Fertilization in animals
- D. Conjugation in bacteria

(Correct Answer: A)

46. In plants, double fertilization results in:

- A. A zygote and endosperm
- B. Two seeds
- C. Two embryos
- D. More flowers

(Correct Answer: A)

47. What is the function of cotyledons in seeds?

- A. Protect from water loss
- B. Help in pollination
- C. Store food for the embryo
- D. Absorb minerals

(Correct Answer: C)

48. What is the main function of the axial skeleton?

- A. Protection and support
- B. Movement

- C. Digestion
- D. Blood circulation

(Correct Answer: A)

49. The joint that allows the greatest range of movement is:

- A. Hinge joint
- B. Ball and socket joint
- C. Pivot joint
- D. Gliding joint

(Correct Answer: B)

50. Which part of the skeleton protects the brain?

- A. Vertebral column
- B. Skull
- C. Rib cage
- D. Pelvis

(Correct Answer: B)

51. Which type of bone is found in the limbs and provides support?

- A. Flat bone
- B. Long bone
- C. Short bone
- D. Irregular bone

(Correct Answer: B)

52. The knee joint is an example of a:

- A. Hinge joint
- B. Ball and socket joint
- C. Pivot joint
- D. Saddle joint

(Correct Answer: A)

53. The ligament connects:

- A. Muscle to bone
- B. Bone to bone
- C. Muscle to muscle
- D. Cartilage to bone

(Correct Answer: B)

54. Which of the following is an example of a slightly movable joint?

- A. Shoulder joint
- B. Joints between vertebrae
- C. Hip joint
- D. Knee joint

(Correct Answer: B)

55. The skeletal system does NOT perform which function?

- A. Providing support
- B. Producing blood cells
- C. Digesting food
- D. Storing minerals

(Correct Answer: C)

56. What is the role of calcium in bone strength?

- A. Provides hardness and strength
- B. Helps in muscle contraction
- C. Supports digestion
- D. Transports oxygen

(Correct Answer: A)

57. What is the function of the pectoral girdle?

- A. Attaches arms to the body
- B. Supports the legs
- C. Protects the heart
- D. Produces blood

(Correct Answer: A)

58. Which of the following bones is found in the appendicular skeleton?

- A. Femur
- B. Skull
- C. Vertebrae
- D. Ribs

(Correct Answer: A)

59. Which of the following is an example of a pivot joint?

- A. Shoulder
- B. Neck (between atlas and axis bones)
- C. Hip
- D. Elbow

(Correct Answer: B)

60. Which part of the skeleton is involved in facial expressions?

- A. Rib cage
- B. Facial bones and muscles
- C. Pelvis
- D. Vertebral column

(Correct Answer: B)

Chapters 15 & 16

1. The observable characteristics of an organism are called:

- A. Genotype
- B. Phenotype
- C. Karyotype
- D. Genetic code

(Correct Answer: B)

2. If an organism has two identical alleles for a trait, it is called:

- A. Homozygous
- B. Heterozygous
- C. Hybrid
- D. Hemizygous

(Correct Answer: A)

3. In Mendelian genetics, the ratio of dominant to recessive traits in F₂ generation is:

- A. 1:1
- B. 3:1
- C. 9:3:3:1
- D. 2:2

(Correct Answer: B)

4. A cross between two heterozygous individuals for two traits results in which ratio?

- A. 3:1
- B. 9:3:3:1
- C. 1:1
- D. 4:0

(Correct Answer: B)

5. Which of the following is an example of co-dominance?

- A. Tall and short pea plants
- B. AB blood group
- C. Purple and white flowers

D. Red and pink flowers

(Correct Answer: B)

6. A father has blood group B and his child has blood group O. What could be the father's genotype?

A. IAIA

B. IBi

C. IAIB

D. IBIB

(Correct Answer: B)

7. If a white flower (rr) is crossed with a red flower (RR) and produces pink offspring (Rr), what type of inheritance is this?

A. Incomplete dominance

B. Co-dominance

C. Multiple alleles

D. Polygenic inheritance

(Correct Answer: A)

8. The two strands of DNA are held together by:

A. Covalent bonds

B. Hydrogen bonds

C. Ionic bonds

D. Disulfide bonds

(Correct Answer: B)

9. The process of converting DNA into mRNA is called:

A. Translation

B. Transcription

C. Replication

D. Mutation

(Correct Answer: B)

10. The part of DNA responsible for a specific trait is called:

A. Chromosome

B. Gene

C. Ribosome

D. Protein

(Correct Answer: B)

11. The role of ribosomes in protein synthesis is to:

- A. Assemble amino acids into proteins
- B. Store genetic information
- C. Replicate DNA
- D. Regulate blood sugar

(Correct Answer: A)

12. The process in which mRNA is used to assemble amino acids into proteins is called:

- A. Translation
- B. Transcription
- C. Mutation
- D. Replication

(Correct Answer: A)

13. Which of the following is a biodegradable waste?

- A. Food waste
- B. Plastic
- C. Glass
- D. Metal

(Correct Answer: A)

14. Which type of pollution is caused by excessive nitrogen and phosphorus in water bodies?

- A. Air pollution
- B. Land pollution
- C. Eutrophication
- D. Noise pollution

(Correct Answer: C)

15. The greatest amount of energy in a food chain is present in:

- A. Primary consumers
- B. Producers
- C. Secondary consumers
- D. Decomposers

(Correct Answer: B)

16. Which of the following gases is responsible for acid rain?

- A. Sulfur dioxide
- B. Oxygen
- C. Nitrogen

D. Hydrogen

(Correct Answer: A)

17. The greenhouse effect is caused by an increase in which gas?

A. Carbon dioxide

B. Oxygen

C. Nitrogen

D. Helium

(Correct Answer: A)

18. The nitrogen-fixing bacteria in the soil convert nitrogen into:

A. Oxygen

B. Ammonia

C. Carbon dioxide

D. Glucose

(Correct Answer: B)

19. Which organisms break down dead material and recycle nutrients?

A. Producers

B. Decomposers

C. Consumers

D. Herbivores

(Correct Answer: B)

20. The relationship in which one organism benefits and the other is harmed is called:

A. Mutualism

B. Parasitism

C. Commensalism

D. Symbiosis

(Correct Answer: B)

21. Which human activity contributes most to deforestation?

A. Car pollution

B. Cutting trees for agriculture

C. Fishing

D. Burning fossil fuels

(Correct Answer: B)

22. The largest carbon reservoir on Earth is:

A. The atmosphere

- B. The ocean
- C. The forests
- D. The soil

(Correct Answer: B)

23. Which of the following is a renewable resource?

- A. Coal
- B. Solar energy
- C. Natural gas
- D. Plastic

(Correct Answer: B)

24. The trophic level that contains herbivores is:

- A. Primary producer
- B. Primary consumer
- C. Secondary consumer
- D. Tertiary consumer

(Correct Answer: B)

25. Which of the following organisms is a secondary consumer?

- A. Frog
- B. Grass
- C. Caterpillar
- D. Rabbit

(Correct Answer: A)

26. The relationship between honeybee and flower is an example of:

- A. Mutualism
- B. Parasitism
- C. Commensalism
- D. Competition

(Correct Answer: A)

27. The basic unit of ecological organization is:

- A. Biome
- B. Population
- C. Ecosystem
- D. Biosphere

(Correct Answer: B)

28. The main source of energy for life on Earth is:

- A. Carbon
- B. The Sun
- C. Oxygen
- D. Water

(Correct Answer: B)

29. The natural method of nitrogen fixation in soil is carried out by:

- A. Fungi
- B. Bacteria
- C. Plants
- D. Insects

(Correct Answer: B)

30. Which cycle is responsible for oxygen production in the atmosphere?

- A. Photosynthesis
- B. Respiration
- C. Nitrogen cycle
- D. Decomposition

(Correct Answer: A)

31. Which type of variation is influenced by environmental factors?

- A. Discontinuous variation
- B. Continuous variation
- C. Genetic variation
- D. Acquired variation

(Correct Answer: B)

32. The phenotypic ratio of F1 offspring when a heterozygous tall (Tt) and round (Rr) pea plant self-pollinates is:

- A. 3:1
- B. 9:3:3:1
- C. 1:1
- D. 1:2:1

(Correct Answer: B)

33. The genetic makeup of an organism is known as:

- A. Phenotype
- B. Genotype
- C. Trait

D. Chromosome

(Correct Answer: B)

34. Which of the following is not an example of natural selection?

A. The survival of the fittest

B. Artificial selection

C. Adaptation to the environment

D. Evolution of new species

(Correct Answer: B)

35. In dihybrid cross, the F₂ generation will show a phenotypic ratio of:

A. 9:3:3:1

B. 3:1

C. 1:1

D. 2:2

(Correct Answer: A)

36. The number of alleles for a particular gene is:

A. 1

B. 2

C. 4

D. 3

(Correct Answer: B)

37. Which of the following is not part of the nitrogen cycle?

A. Nitrification

B. Denitrification

C. Ammonification

D. Photosynthesis

(Correct Answer: D)

38. The first step in eutrophication is:

A. Oxygen depletion

B. Increase in algae

C. Nutrient enrichment

D. Fish death

(Correct Answer: C)

39. The largest source of genetic variation in sexually reproducing organisms is:

A. Mutation

- B. Recombination
- C. Translocation
- D. Migration

(Correct Answer: B)

40. The concept of 3R's refers to:

- A. Reproduction, regeneration, recycling
- B. Reduce, reuse, recycle
- C. Rest, relax, rejuvenate
- D. Random, regulated, repeated

(Correct Answer: B)

41. Which of the following is a biodegradable pollutant?

- A. Plastic
- B. Pesticides
- C. Food waste
- D. Paint

(Correct Answer: C)

42. Greenhouse gases primarily contribute to:

- A. Soil erosion
- B. Acid rain
- C. Global warming
- D. Ozone depletion

(Correct Answer: C)

43. The probability of offspring having a red, pink, and white flower when crossing red, pink, and white 4 o'clock plants will be:

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

(Correct Answer: B)

44. The term biodiversity refers to:

- A. The variety of life forms on Earth
- B. The total number of species
- C. The geographical distribution of species
- D. The total biomass in an ecosystem

(Correct Answer: A)

45. Artificial selection is:

- A. The process by which humans breed organisms with desirable traits
- B. The natural process of evolution
- C. The survival of organisms best suited to the environment
- D. A type of genetic mutation

(Correct Answer: A)

46. Denitrifying bacteria convert nitrates into:

- A. Nitrogen gas
- B. Ammonia
- C. Nitrites
- D. Urea

(Correct Answer: A)

47. Which of the following best describes symbiosis?

- A. One organism benefits, and the other is harmed
- B. Both organisms benefit
- C. Both organisms live together for the benefit of both
- D. One organism benefits without affecting the other

(Correct Answer: C)

48. In human genetics, which of the following is an example of a genetic disorder caused by a single gene?

- A. Hemophilia
- B. Sickle cell anemia
- C. Down syndrome
- D. Cystic fibrosis

(Correct Answer: B)

49. In theory of evolution, what is meant by natural selection?

- A. Random mating in organisms
- B. The best-adapted organisms survive and reproduce
- C. Changes in genes occur due to mutations
- D. Organisms adapt to the environment by learning new behaviors

(Correct Answer: B)

50. Which of the following is not a characteristic of a population?

- A. Birth rate
- B. Death rate

- C. Genetic recombination
- D. Migration

(Correct Answer: C)

51. The main cause of deforestation is:

- A. Urbanization
- B. Agriculture
- C. Overpopulation
- D. Natural disasters

(Correct Answer: B)

52. The main role of decomposers in an ecosystem is to:

- A. Break down dead organic matter and recycle nutrients
- B. Produce energy for the ecosystem
- C. Absorb sunlight and produce food
- D. Reproduce rapidly in favorable conditions

(Correct Answer: A)

53. In an ecosystem, producers are typically:

- A. Carnivores
- B. Plants
- C. Decomposers
- D. Herbivores

(Correct Answer: B)

54. The food chain in an ecosystem always begins with:

- A. Producers
- B. Consumers
- C. Herbivores
- D. Decomposers

(Correct Answer: A)

55. The relationship between a bee and a flower is an example of:

- A. Commensalism
- B. Mutualism
- C. Parasitism
- D. Competition

(Correct Answer: B)

56. The total amount of energy transferred in an ecosystem is known as:

- A. Energy flow
- B. Biomass
- C. Trophic level
- D. Primary productivity

(Correct Answer: A)

57. A species that is introduced into a new habitat and causes harm to the ecosystem is called:

- A. Endemic species
- B. Natural species
- C. Invasive species
- D. Native species

(Correct Answer: C)

58. Which of the following is a key factor in natural selection?

- A. Random mutation
- B. Survival of the fittest
- C. Adaptation to the environment
- D. Artificial breeding

(Correct Answer: C)

59. The process by which green plants produce food using sunlight is called:

- A. Photosynthesis
- B. Respiration
- C. Digestion
- D. Germination

(Correct Answer: A)

60. The term 'fitness' in natural selection refers to:

- A. The ability to survive and reproduce in the environment
- B. The physical strength of an organism
- C. The number of offspring an organism produces
- D. The health of an organism

(Correct Answer: A)

Chapters 12, 17 & 18

1. The gland responsible for controlling metabolism is:

- A. Adrenal gland
- B. Thyroid gland
- C. Pituitary gland
- D. Pancreas

(Correct Answer: B)

2. Which hormone increases blood sugar levels in emergency situations?

- A. Insulin
- B. Thyroxine
- C. Estrogen
- D. Adrenaline

(Correct Answer: D)

3. The part of the brain responsible for balance and coordination is:

- A. Cerebrum
- B. Cerebellum
- C. Medulla oblongata
- D. Thalamus

(Correct Answer: B)

4. Which gland is called the 'master gland'?

- A. Thyroid
- B. Pituitary
- C. Adrenal
- D. Pancreas

(Correct Answer: B)

5. The hormone that regulates calcium levels in the blood is:

- A. Thyroxine
- B. Parathyroid hormone
- C. Insulin
- D. Estrogen

(Correct Answer: B)

6. Where are hormones destroyed after their function is completed?

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

(Correct Answer: B)

7. The functional unit of the nervous system is:

- A. Neuron
- B. Synapse

- C. Axon
- D. Dendrite

(Correct Answer: A)

8. The nerve impulse is best described as a:

- A. Chemical signal
- B. Electrical signal
- C. Osmotic signal
- D. Electrochemical signal

(Correct Answer: D)

9. The hormone that lowers blood sugar levels is:

- A. Insulin
- B. Glucagon
- C. Adrenaline
- D. Thyroxine

(Correct Answer: A)

10. Which neurons carry impulses from the brain to muscles?

- A. Sensory neurons
- B. Motor neurons
- C. Interneurons
- D. Synaptic neurons

(Correct Answer: B)

11. The part of the nervous system responsible for involuntary actions is:

- A. Autonomic nervous system
- B. Somatic nervous system
- C. Central nervous system
- D. Peripheral nervous system

(Correct Answer: A)

12. The hormone that helps in maintaining pregnancy is:

- A. Estrogen
- B. Testosterone
- C. Progesterone
- D. Thyroxine

(Correct Answer: C)

13. Which part of the eye controls the amount of light entering?

- A. Retina
- B. Iris
- C. Lens
- D. Cornea

(Correct Answer: B)

14. The lens of the eye focuses light on the:

- A. Retina
- B. Cornea
- C. Pupil
- D. Optic nerve

(Correct Answer: A)

15. Which part of the brain controls heartbeat and breathing?

- A. Cerebrum
- B. Cerebellum
- C. Medulla oblongata
- D. Hypothalamus

(Correct Answer: C)

16. The hormone responsible for growth and development is:

- A. Insulin
- B. Growth hormone (GH)
- C. Oxytocin
- D. Thyroxine

(Correct Answer: B)

17. Which disorder is caused by a deficiency of iodine?

- A. Goiter
- B. Diabetes
- C. Osteoporosis
- D. Anemia

(Correct Answer: A)

18. The first antiseptic was discovered by:

- A. Joseph Lister
- B. Edward Jenner
- C. Louis Pasteur
- D. Gregor Mendel

(Correct Answer: A)

19. Which part of the ear maintains body balance?

- A. Cochlea
- B. Semi-circular canals
- C. Auditory nerve
- D. Eustachian tube

(Correct Answer: B)

20. The drug morphine is used for:

- A. Stimulation
- B. Infection treatment
- C. Pain relief
- D. Lowering blood sugar

(Correct Answer: C)

21. Which neurons are found only in the central nervous system?

- A. Sensory neurons
- B. Motor neurons
- C. Interneurons
- D. Spinal neurons

(Correct Answer: C)

22. Which vitamin is needed for blood clotting?

- A. Vitamin K
- B. Vitamin A
- C. Vitamin C
- D. Vitamin D

(Correct Answer: A)

23. Which of the following is an example of industrial fermentation?

- A. DNA replication
- B. Penicillin production
- C. Photosynthesis
- D. Nitrogen fixation

(Correct Answer: B)

24. The chemical messenger that transmits signals across a synapse is:

- A. Neurotransmitter
- B. Nephron
- C. Hormone

D. Enzyme

(Correct Answer: A)

25. Which part of the brain is responsible for emotions and hunger?

A. Cerebrum

B. Hypothalamus

C. Medulla

D. Cerebellum

(Correct Answer: B)

26. Which hormone regulates sleep cycles?

A. Adrenaline

B. Growth hormone

C. Melatonin

D. Estrogen

(Correct Answer: C)

27. Which condition is caused by insulin deficiency?

A. Diabetes mellitus

B. Hypertension

C. Goiter

D. Kidney stones

(Correct Answer: A)

28. How does the body respond to stress?

A. Lowers heart rate

B. Releases adrenaline

C. Decreases blood sugar

D. Slows breathing rate

(Correct Answer: B)

29. Which part of the ear converts sound vibrations into nerve impulses?

A. Semi-circular canals

B. Tympanic membrane

C. Cochlea

D. Eustachian tube

(Correct Answer: C)

30. What is the main function of the spinal cord?

A. Transmit nerve impulses between the brain and body

- B. Pump blood to the brain
- C. Store neurotransmitters
- D. Control hormone release

(Correct Answer: A)

31. The chemical that helps in transmission of nerve impulses across a synapse is:

- A. Insulin
- B. Glucagon
- C. Acetylcholine
- D. Adrenaline

(Correct Answer: C)

32. The outer covering of the brain and spinal cord is called:

- A. Myelin sheath
- B. Neuron membrane
- C. Meninges
- D. Corpus callosum

(Correct Answer: C)

33. The largest part of the brain, responsible for intelligence and thinking, is:

- A. Cerebrum
- B. Cerebellum
- C. Medulla oblongata
- D. Pons

(Correct Answer: A)

34. The structure that connects the two hemispheres of the brain is:

- A. Hypothalamus
- B. Corpus callosum
- C. Medulla oblongata
- D. Thalamus

(Correct Answer: B)

35. The protective fluid around the brain and spinal cord is:

- A. Blood plasma
- B. Interstitial fluid
- C. Cerebrospinal fluid
- D. Lymph

(Correct Answer: C)

36. The basic functional unit of the kidney is:

- A. Neuron
- B. Alveolus
- C. Nephron
- D. Glomerulus

(Correct Answer: C)

37. The hormone that stimulates milk production in females is:

- A. Estrogen
- B. Prolactin
- C. Oxytocin
- D. Testosterone

(Correct Answer: B)

38. The hormone that triggers labor contractions is:

- A. Prolactin
- B. Oxytocin
- C. Estrogen
- D. Adrenaline

(Correct Answer: B)

39. Reflex actions are controlled by:

- A. Cerebrum
- B. Cerebellum
- C. Spinal cord
- D. Medulla

(Correct Answer: C)

40. The fluid inside the eyeball that maintains its shape is:

- A. Aqueous humor
- B. Vitreous humor
- C. Synovial fluid
- D. Cerebrospinal fluid

(Correct Answer: A)

41. The part of the ear that collects sound waves is:

- A. Pinna
- B. Cochlea
- C. Tympanic membrane
- D. Eustachian tube

(Correct Answer: A)

42. The first vaccine was developed by:

- A. Louis Pasteur
- B. Edward Jenner
- C. Robert Koch
- D. Joseph Lister

(Correct Answer: B)

43. The bacteria-fighting enzyme found in tears and saliva is:

- A. Pepsin
- B. Lysozyme
- C. Trypsin
- D. Amylase

(Correct Answer: B)

44. Interferons are proteins that:

- A. Destroy bacteria
- B. Prevent viral infections
- C. Digest proteins
- D. Increase blood pressure

(Correct Answer: B)

45. The hormone that helps regulate the body's circadian rhythm is:

- A. Insulin
- B. Melatonin
- C. Oxytocin
- D. Adrenaline

(Correct Answer: B)

46. The condition in which the lens of the eye becomes cloudy is called:

- A. Glaucoma
- B. Cataract
- C. Myopia
- D. Hyperopia

(Correct Answer: B)

47. The eye disorder where a person cannot focus on nearby objects is called:

- A. Myopia
- B. Hyperopia

- C. Cataract
- D. Astigmatism

(Correct Answer: B)

48. The antibiotic penicillin was discovered by:

- A. Louis Pasteur
- B. Alexander Fleming
- C. Robert Koch
- D. Joseph Lister

(Correct Answer: B)

49. The disease caused by insulin deficiency is:

- A. Diabetes mellitus
- B. Hypertension
- C. Scurvy
- D. Anemia

(Correct Answer: A)

50. The endocrine gland that regulates metabolism is:

- A. Thyroid gland
- B. Adrenal gland
- C. Pituitary gland
- D. Pancreas

(Correct Answer: A)

51. The part of the brain responsible for regulating body temperature is:

- A. Cerebellum
- B. Hypothalamus
- C. Medulla
- D. Thalamus

(Correct Answer: B)

52. The function of the Eustachian tube in the ear is to:

- A. Maintain pressure balance in the middle ear
- B. Transmit sound waves
- C. Protect the ear from infections
- D. Convert sound into nerve impulses

(Correct Answer: A)

53. The hormone that helps regulate calcium levels in bones is:

- A. Parathyroid hormone
- B. Insulin
- C. Glucagon
- D. Estrogen

(Correct Answer: A)

54. The type of antibiotic that kills bacteria directly is called:

- A. Bacteriostatic
- B. Bactericidal
- C. Antiviral
- D. Antifungal

(Correct Answer: B)

55. The structure that controls involuntary functions like breathing and heart rate is:

- A. Cerebrum
- B. Cerebellum
- C. Medulla oblongata
- D. Thalamus

(Correct Answer: C)

56. The part of the nervous system that controls voluntary movements is:

- A. Somatic nervous system
- B. Autonomic nervous system
- C. Sympathetic nervous system
- D. Reflex arc

(Correct Answer: A)

57. The major site for protein synthesis in a cell is:

- A. Ribosome
- B. Nucleus
- C. Lysosome
- D. Golgi apparatus

(Correct Answer: A)

58. The part of the neuron that transmits impulses away from the cell body is:

- A. Dendrite
- B. Axon
- C. Synapse
- D. Nucleus

(Correct Answer: B)

59. The hormone responsible for regulating sleep patterns is:

- A. Melatonin
- B. Serotonin
- C. Dopamine
- D. Adrenaline

(Correct Answer: A)

60. The nerve that connects the eye to the brain is:

- A. Optic nerve
- B. Auditory nerve
- C. Spinal nerve
- D. Motor nerve

(Correct Answer: A)

