D. Single layered epidermis in leaves

Grade 10 Biology

Unit 1

Biotechnology

1. Which of the following gases is the main component of biogas?

A. Methane B. Carbon dioxide C. Hydrogen D. Hydrogen sulphide

2. Biotechnology deals with

A**. methods to improve crop yield and quality** B. classification of plants,

C. diseases and their causes D. the structure of micro-organisms,

3. What is the limitation to use ethanol as a fuel for cars?

A. It takes a lot of plant material to produce.

B. It increases the level of carbon dioxide in the atmosphere.

C. It produces much-organic wastes in the environment.

D. It emits much toxic gases than conventional fuels

4. Which of the following are the waste products of anaerobic respiration by yeast cells?

A. Ethanol and carbon dioxide B. Water and lactic acid

C. lactic acid and ethanol D. Carbon dioxide and water

5. Biotechnology is important to:

A. produces only alcoholic drinks **B. produces new medicines**

C. reduce genetic engineering products D. reduces new forms of fuel production

6. Which of the following activities is the importance of biotechnology?

A. Mobiles B. Shoes C. **Beer** D. Plastics

7. Which of the following statements is correct about the use of yeasts? They

A. prevention against disease B. production of minerals

C. **decomposition of dead organisms'** D. making food by photosynthesis

8. The advantage of biogas technology is:

A. the control of plant pests

B. the saving of oil and wood

C. the manufacture of antibodies

D. the production of high yielding varieties of plant

9.The application of biotechnology that involves changing the hereditary material of an organisms is

A. chemical engineering B. mechanical engineering

C**. genetic engineering** D. civil engineering

10. When a mother wants to make injera, First she prepares dough from teff powder and water. She leaves the dough for two or three day for

A. Yeasts to produce ethanol

B. Yeasts to produce carbon dioxide

C. Bacteria to produce water

D. Bacteria to produce lactic acid

11. Which of the following statements is true about ethanol?

A. It increases accumulation of carbon dioxide in atmosphere

B. It is more polluting than conventional fuels.

C. It does not produce toxic gases when it is burnt

D. It is not produced from sugar cane.

12. Bacteria can transfer genes to other bacterium. A gene unique to bacterium A is transferred to bacterium B which of the following will be the most likely result?

A. Bacterium B will develop new traits

B. Bacterium B will be poisoned

C. Bacterium B will change in to bacterium A

D. Bacterium B will divide more rapidly

13. what causes muscle fatigue after a very hard physical exercise?

A. Acetic acid **B. lactic acid**

C. Oxalic acid D. Carbonic acid

14. proteins which make cells less susceptible to attacks by viruses are known as

A. interferon B. single cell protein

C. mycoprotein D. hybridomas

15 The transfer of genes from the DNA of one organism into the DNA of another organism is known as

A. tissue culture **C. genetic engineering**

B. hybridization D. transplantation

16. During brewing malt is used as a:

A**. source of sugar during the continuing fermentation**

B. culturing medium for the initial growth of yeasts

C. source of bitter taste

D. source of carbon dioxide

17. Which of the following is an area of biotechnology application? Production of

A. computer C. plastic bottles

B. medicine D. Cars

18. Production of biogas is an application of biotechnology in the area of

A. water B**. energy** C. food D. medicine

19. Which of the following is an example that shows the significance of biotechnology?

A. Using genetic engineering to improve plant growth

B. Digging large holes to conserve rain water

C. Building terraces to minimize soil erosion

D. Using dung to fertilize the soil

20. In which of the following areas of the present day application of biotechnology could human and animal waste be used?

A. Medicine production C. Steel production

B. Biogas production D. Plastic production

21. Which of the following processes requires the activity of yeast?

A **Producing wine** C. Cooking shero wot

B Preparing coffee D. Making orange juice

22. Which of the following activities depends on application of biotechnology?

A. Using traditional medicine to cure headache

B. Using biological pest control

C. Production of genetically modified crops

D. Production of pesticides to control pests

23. Tej, a traditional drink of Ethiopia is made of honey, water and gesho. It also needs yeast. What is the role of yeast? To

A. makes the tej free from CO_2 C**. produce ethanol**

B. produces lactic acid D. make the tej sweet

24. During baking of injera, the C02 produced by yeast is used to

A. kill contaminants that spoil injera

B**. give injera its typical texture**

C. bake injera with low temperature

D. increase the shelf life of injera

25. During bread making using yeast, the dough swells after it is placed in oven at about 30°C for 30 minutes. This is because the:

A. Alcohol produced accumulates in the dough and makes it to swell

B. Heat from oven makes the dough to relax and swell

C. Carbon dioxide produced. Swells the dough when it tries to come out

D. Yeast reproduces and increases the size of the dough

Unit 2

Heredity

1. Before starting his actual experiment, Mendel let the pea plants to self-pollinate for a number of generations. This is in order to:

A. Observe how the plants germinate

B. Check if they fertile

C. Study the conditions needed for their growth

D. **Test the purity of each variety for a chosen trait**

2. Suppose a certain DNA molecule has 300 bases and 30% of them are found to be adenine. The number of cytosine would be:

A. 150 B. 200 C. 100 **D. 60**

3. Each unit of a nucleic acid consisting of a sugar attached to phosphate group, and base is a

A. nucleolus B. **nucleotide**

C. nucleosome D. histone

4. In pea plants, tallness is dominant over shortness. What would be the genotypes, if hybrid tall plants are self-pollinated?

A. TT. Tt, tt B. TT, tt C. Tt D. Tt. tt

5. The components of a nucleotide are:

A. Phosphate, protein and nitrogenous base B**. Phosphate, Ribose sugar and nitrogenous base**

C. Ribose sugar and nitrogenous base D. Deoxyribose sugar and nitrogenous base

6. In a DNA molecule, the base cytosine pairs with:

A**. Guanine** B. Adenine C. Thymine D. Cytosine

7. In mitotic cell division, duplication of chromosomes occurs in;

A. Prophase B. **Interphase** C. Telophase D. Metaphase

8. During cell division centrioles form:

A. Centromeres B. Nucleotides C. Nucleolus D**. Spindle fibers**

9. Hybrid tall pea plants were let to self-pollinate and produce 1064 seeds. How many of them do you expect to be pure tall?

A. **35** **B. 266** C. 532 **D. 798**

10, which of the following types of cells are produced by normal mitosis cell division in human skin cells?

A. 4 diploid cells B. 2 haploid cells

C.**2 diploid cells** D. 4 haploid cells

11. Which of the following parts of the DNA ladder make up the cross bars?

A. Acids C. Phosphates B. Sugars D**. Bases**

12. Which of the following is not inheritable?

A. Attached ear lobes B. Albinism C**. Scar on skin** D. Tongue rolling

13. Which of the following domestic animals in Ethiopia have more breeding types?

A. Cattle B. Chickens C. Croats D. Sheep

14. Which of the following is common feature of cross and selective breeding?

A**. Both improve production yield and quality** B. Both are effective for breeding close relatives

C. Both are used to breed for a particular trait D. Both involve combination of traits

15. Which of the following alternative shows the correct pairing molecule of bases in a DNA?

A. Cytosine – Thymine B. **Adenine - Thymine**

C. Adenine – Guanine D. Guanine – Thymine

16. How do genes control what goes on in the cell and the organism?

A. By catalyzing chemical reactions that take place in the organism

B. By specifying the order of amino acids in a particular protein

C. By initiating the process of cell division

D. By taking part in the chemical reaction of the cell

17. When Mendel crossed plants pure for dominant character and plants pure for recessive character, all the F1 offspring showed the dominant character, when he crossed F1, offspring with the recessive character appeared in the F2. How could this happen? Because

A. the recessive alleles appeared together

B. the dominant character lost its effect

C. One dominant and one recessive character appeared together

D. the dominant and recessive characters mixed

18. What do we call the physical appearance of an organism relating to its genetic makeup?

A. Phenotypes B. Alternative C. Alleles D. Genotypes

19. Which of the following fertilization of sex chromosomes will have a boy offspring?

A.Y chromosomes of mother with X chromosomes of father

B. Y chromosomes of mother with Y chromosomes of father

C**. X chromosomes of mother with Y chromosomes of father**

D. X chromosomes of mother with X chromosomes of father

20. The mating between a Borena and a Holstein Friesian cow produce a fertile offspring. This indicates that

A. they are different species to produce offspring.

B. they look alike morphologically.

C**. they are the same species**.

D. their offspring would not be reproduced.

21. Which of the following alleles is expressed phenotypically only when the two copies are found together?

A. Heterozygous B. Hybrid C**. Recessive** D. Dominant

22. Which of the following is performed in selective breeding? Organisms with

A. Strong and weak characteristics from the different breeds

B. Strong characteristics from the same breed is allowed to mate to get the desired trait.

C. Strong characteristics from different breeds are allowed to mate to produce the desired feature.

D. Strong and weak characteristics from the same breed are allowed to mate to get the desired feature

23. Which of the following is true about a gene? A gene is

A**. a hereditary material** B. located on the cell membrane

C. a small section of protoplasm D. made up of fats.

24. Suppose an experiment is conducted by a student through crossing of two round shaped (Rr) pea seeds. Which of the following will be the possible outcome?

A. Three offspring will have phenotypically round shape.

B. Four offspring will have phenotypically round shape.

C. Four offspring will have genotypically wrinkle shape.

D. Two offspring will have genotypically wrinkle

25. Which of the following is true about animal and plant breeding?

A. It causes the wastage of resources B. It reduces genetic diversity,

C. It can be done by anybody **D. It provides new and useful genes**

26. Before starting his actual experiment, Mendel let the pea plants to self-pollinate for a number of generations. This is in order to:

A. Observe how the plants germinate

B. Check if they fertile

C. Study the conditions needed for their growth

D. **Test the purity of each variety for a chosen trait**

27. When true-breeding pea plants with green pods are crossed with true-breeding pea plants with yellow pods, all of the offspring in the F1 generation have green pods. From this, we can conclude:

A. the gene for pod color exhibits incomplete dominance

B. the allele for green pod is recessive

C. the allele for green pod is dominant

D. the gene for pod color exhibits codominance

28. The appearance of the recessive trait in the offspring of animals most probably indicates that

A. One parent was homozygous dominant and the other parent was homozygous recessive for the trait

B. both parents carried at least one recessive gene for that trait

C. One parent was homozygous dominant and the other parent was hybrid for the trait

D. neither parent carry recessive gene for the trait

29. Which of the following techniques serves in altering an organism's genotype by inserting genes from other organisms into its DNA?

A. Tissue culture C. Production of interferons

B. **Genetic engineering** D. Fermentation technology

30. When Mendel crossed pure round pea with pure wrinkled pea, the offspring at the first generation will be

A. two wrinkled and two round B. all wrinkled

C. one wrinkled and three round D. **all rounded**

31. A biology student did an experiment by crossing a yellow seeded (Yy) pea with a green seeded (yy). The offspring's:

A. Three yellow and one green seeded, phenotypically

B. All of the outcomes were yellow, genotypically

C. Two yellow and two green seeded, phenotypically

D. All of the outcomes were green, phenotypically

32. Which of the following is considered as importance of breeding for a society? It is used to

A. reduces genetic diversity B. Avoid new gene provision

C. reduces the use of natural resources D**. Produce sufficient food**

33. What is meiosis? lt is division of

A. brain cells B. blood cells.

C. haploid cells D. **Sex cells**

34. An allele for dangly ear lobes 'D is dominant over an allele for attached ear lobes.

A woman with dangly ear lobe is married to a man with attached ear lobe. Which of the following shows the possible genotype of their offspring?

A. DD and dd **B. Dd and dd**

C. DD D. DD and Dd

35. The process of combining good traits from different breeds is

A. selective breeding C. associative breeding

B**. cross breeding** D. test cross

36. In the process of mitotic cell division, what will happen during anaphase stage?

A**. Spindle fibers shorten and pull the chromatids to opposite poles**

B. Two new nuclei form at the poles of the cell

C. Chromatids line up in the middle of the cell

D. Chromosomes are copied as DNA replicate

37. The allele to have dangly earlobes is represented by "G" and it is dominant. The allele to have attached earlobes is represented by "g" and it is recessive. Which of the following is true about the alleles when they are inherited by the offspring? If the

A. offspring inherit "Gg" allele from both of their parents, they will have attached earlobes.

B. offspring inherit "GG" allele from both of their parents; they will have attached ear lobes.

C. offspring inherit "gg allele from both of their parents, they will have attached earlobes.

D. offspring inherit "gg allele from both of their parents, they will have dangly earlobes.

38. Which of the following biological discoveries is contributed by Gregor Mendel?

A**. The inheritance of characteristics**

B. The first optical microscope

C. The modern cell theory

D. The double helix structure of DNA

39. Thread like structures inside the nucleus that contain the genetic material are called

A. alleles B. genes

C. nucleotides **D. chromosomes**

40. The type of breeding used to improve a breed of organisms through combining good traits from two different breeds is known as

A. out-breeding B. in-breeding

C. cross- breeding D. selective breeding

41. During meiosis I, at which phase does each chromosome appear in the condensed form with two chromatids?

A. Telophase I B. Anaphase I

C. Metaphase I **D. Prophase I**

42. Which cellular process gives two identical daughter cells?

A. Meiosis **B. Mitosis**

C. Fertilization D. Osmosis

43. Modern genetics is based upon the work of

A. Charles Darwin B. Edward Jenner

C. Gregor Mendel D. Louis Pasteur

44. Growth of body tissue is a result of

A**. mitosis** B. mutation

C. meiosis D. metamorphosis

45. A single cell of a testis divides to produce:

A. a single sperm B. 2 sperms

C. 4 sperms D. 6 sperms

46. The black eye allele (B) is dominant to the brown eye allele (b). What

Genotypes correspond to phenotype black eyes?

A. BB only B. Bb only

C. Bb and bb only **D. BB and Bb only**

47. What is the number of chromosomes in a human fertilized egg?

A. 23 **B. 23 pairs**

C. 23-46 D. 46 pairs

48. What is mitosis? It is

A. division of somatic cells B. formation of sex cells

C. copying of chromosomes D. formation of zygote

49. Which one of the following statements is correct about the work of Mendel on pea plants? Mendel

A. observed that axial flower was a recessive trait

B. removed both the stigma and pollen from the plant

C. opened his pea plants before the pollen matured

D. observed that round shape was a recessive trait

50. What is the stage of meiosis where a pair of chromatids moves to the opposite poles?

A. Interphase C. Metaphase ll

B. Prophase I **D. Anaphase ll**

51. What is the result of a cross between pea plarnts with heterozygous allele for round seeds (Rr) and those with wrinkled seeds (rrj?

A. 50% of the first generation produces round seeds

B. 75% of the first generation produces wrinkled seeds

C. The first generation produces only wrinkled seeds

D. The first generation produces only round seeds

52. The type of breeding done in order to get a particular trait is

A. true breeding C. multi breeding

B. selective breeding D. cross breeding

53. The main objective of Gregor Mendel's work was to proof how

A. cell division works C**. inheritance works**

B. breathing system works D. blood circulation works

54. Abraham has three sisters and both of his parents have homozygous straight thumbs. How many of his sisters will inherit the allele for thumbs?

A. None of his sisters inherit the allele for straight thumbs

B**. All of his sisters inherit the allele for straight thumbs**

C. One of his sisters inherits the allele for straight thumbs

D. Two of his sisters inherit the allele for straight thumbs

55. whch of the following nitrogen bases can form a pair in the DNA molecule?

A Adenine-Guanine

B. Cytosine –Adenine

C. Guanine-Cytosine

D. Cytosine-Thymine

56. The nucleotides in a DNA molecule differ in the kind of

A. caron **B. base**

C. acid D. sugar

57. Which one of the following is the correct order of stages in mitosis?

A. Prophase, metaphase, anaphase, telophase

B. Anaphase, telophase, prophase, metaphase

C. Anaphase, metaphase, telophase, prophase

D. prophase, anaphase, metaphase, telophase

58. The technique of altering an organism's genotype by inserting genes from other organism into its DNA is:

A. Gene bank B. Immunization

C. Fermentation **D. genetic engineering**

59. In the experiments of Mendel, which of the following are alternate (contrasting) traits?

A. Tall x Terminal C. Round x Terminal

C. Tall x Short D. Round x Green

60. When round seeds and wrinkled seeds of pea plants are crossed, all the hybrid plants produced only round seeds. This shows that wrinkledness is:

A. **recessive** B. dominant

C. heterozygous D. hybrid

61. In which of the following phases of mitosis does the cytoplasm divide into halves

A Metaphase **B Telophase**

C Prophase D. Anaphase

62. .DNA is made up of smaller molecule know as

A. carbon sugar B. a phosphate group

C. Nucleotides D. Nitrogenous base

63. Which of the following statements is true about cross-breeding? It is improving breeds by

A. killing unproductive individuals of the breed

B. giving hormones that boost growth of the breeds

C. selecting best individuals of the breed to build the stock

D. combining good traits from two different organisms

64. Meiosis is a type of cell division that takes place

A. germ cells B. somatic cells

C. nerve cells D. muscle cells

65. why did Mendel do his experiment on peas? To see how

A. growth of peas is affected by fungal disease

B. peas produce flowers in their early developmental stage

C. parental materials are transferred to their offspring

D. male gametes join with female gametes

66. Assume both parents (male and female) have a homozygous gene for the expression of attached ear lobe. What is the probability that their offspring will inherit the gene for attached earlobe?

A. 50% B. 259% C**. 100%** D. 75%

67. At which stage of meiotic cell division does the spindle form and crossing over takes place?

A. Telophase I B. Metaphase I

C Anaphase I D**. Prophase I**

68. Breeding of animals or plants has a paramount importance to the societies of Ethiopia since it

A. decreases the productivity of the animals.

B. gives low amount of the product we need

C. enables society to generate low income.

D. increases the genetic resources in the country.

69. Suppose 1600 pea plants are produced from Tt x tt cross, how many of them are expected to be tall?

A. 800 C. 1600

B. 1200 D. 400

70. The inheritable changes caused by a change in the structure of chromosome is known as

A. hybrid vigor **B. mutation**

C. recombination D. adaptive radiation

71. RNA is different from DNA in that RNA contains Uracil instead of

A. adenine C. guanine

B. thyamine D Cytosine

72. which of the following processes involves meiosis?

A. Body growth B. Growth of embryo

C. Production of gametes D. Replacement of lost cells

73. For a given trait, the two genes of an allele pair are alike. An individual possessing this gene is said to be

A. recessive trait B. hybrid for that trait

C. heterozygous for that trait **D. homozygous for that trait**

74. In his experiment on garden pea why Mendel did open the Flowers at their bud stage and removed the stamens?

A. To prevent cross pollination

C. To make them grow faster

B. To make them fertile

D. **To prevent self-pollination**

75. In humans, dangly ear lobe is dominant over attached ear lobe. If two parents heterozygote for dangly ear lobes produce children, what will be the probability of producing offspring with attached ear lobes?

A. 50% **C. 25%**

B. 75% D. 100%

76. In the chromosomes, what links the two DNA strands?

A. Sugars C. Phosphate

B. Bases D. Nucleotides

77. Which of the following breeds of cattle has Ethiopian origin?

A. Friesian B. **Borene** C. Hareri D. Holstein

78. What do you call a breeding technique which helps to get a combination of good traits from two different parents?

A. Group breeding B. Pure breeding

C. **Cross breeding** B. Selective breeding

79. Normal skin color is determined by a dominant allele (A). The recessive allele (a) results in albino skin color. If a couple that is heterozygous for the gene want to have children, what will be the chance of having an albino child?

A. 100% C. **25%**

B. 50% D. 75%

80. What are the components of deoxyribonucleic acid (DNA)?

A. Phosphate group, base, and protein

B. Phosphate group, base, and sugar

C. Base, phosphate group and sodium

D. Base, phosphate group and calcium

81. Which of the following statements is true about cross-breeding? It is a method of improving breeds by

A. giving hormones that boost growth of the breeds

B. killing unproductive individuals of the breed

C. selecting best individuals of the breed and using them to build the stock

D. **combining good traits from two different organisms**

82. The correct order of the cell cycle is

A. Metaphase → Ansphaie→ Telophase → Interphase

B. Telophase → Anaphase → Prophase → Metaphase

C. **Interphase → Prophase → Metaphase → Anaphase**

D. Prophase → Metaphase → Interphase → Anaphase

83. This item is based on the following Mendel's procedures of breeding,

I. Determination of proportions

2. Sorting of individuals of the second filial generation

3: Dusting of stigma of a tall plat with pollen grain from a short pea plant

4. Self-pollination of first filial generation

Which of the following is the correct sequence of Mendel's procedures?

A. 3,2,4,1 C. 1, 3, 2, 4

B. 3.4.2.1 D. 1, 2, 3.4

84. According to Mendel's law of inheritance, round seeds (R) are dominant over wrinkled seeds (r). Which of the following proportions will be obtained in the F1 generation if homozygote parents with round (RR) and wrinkled (rr) seeds are breed'?

A. 1 round: 1 wrinkled B. All wrinkled

C. All round D.3 round: 1wrinkle

Unit 3

Human biology and health

1. The eye lens is flexible in shape. This allows to:

A. Control the amount of incoming light **B. Accommodate near and distant objects**

C. Transmit different colors of light D. Pass more light in dim condition

2. How does the diaphragm work to control unwanted conception?

A**. inserting into the vagina before intercourse to cover cervix**

B. avoiding sex during the fertile time

C. placing over the penis to collect the semen

D .Sing the variation of natural hormones to prevent conception

3. Which of the following is true of a resting neuron?

A. Its outside membrane becomes negative **B. It is polarized**

C. It has an action potential D. It is depolarized

4. The axon of motor neurons is connected to:

A. Muscle fibers B. Sensory receptors C. Dorsal root D. Associative neurons

5. Which of the following is true of poikilothermic animals?

A. When the outside temperature is too hot or too cold, most poikilothermic animals become inactive

B. Most poikilothermic animals tend to live in the temperate regions

C. They depend mainly on high metabolic rates in their body to generate heat

D. They consume more food than homoeothermic animals of the same weight

6. Which of the following substances is abundant in urine?

A. Amino acids **B. Urea** C. Glucose D. Sodium

7. Which of the following functions of the liver is related to the hormone glucagon?

A. Detoxification of alcohol and drugs B. Production of bile salts

C. **Conversion of glycogen into glucose** D. Deamination of excess anno acids

8. Osmoregulation is a physiological regulation of:

A**. Water and mineral salts** B. Blood sugar and salts C. Temperature D. Blood pressure

9. In the human male sperms stored and matured in a structure known as:

A. Ureter B. Vas deferens C. Urethra D. **Epididymis**

10. As one gets older, he/she becomes long sighted. What kind of eye glasses would you advice him/her to wear? Eye glasses with:

A. Thick lens B. Thin lens C. **Convex lens** D. Concave lens

11. The sense of receptors in the skin that enable us to distinguish between rough and smooth surfaces are known as:

A. Pacinian corpuscles B**. Meissner's corpuscles** C. Nociceptors D. Thermo receptors

12. Which of the following structuges is found in the fluid-filled portion of the ear?

A. Tympanic membrane B. Pinna C. Ossicles D. **Semi-circular canals**

13. Suppose a person takes unknown drug and he becomes restless and sees things that do not exist. The drug is most probably a:

A. Stimulant **B. Hallucinogen** C. Hypnotic D. Pain killer

14. Some reptiles in temperate regions go into very deep sleep longer time during cold seasons. This kind of adaptation 1s known as

A. Aestivation B. Vasodilation C. Vasoconstriction D**. Hibernation**

15. When you learn biology in your class room, which portion of your brain helps you to remember the concepts?

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

16. In which of the following does the structure of a neuron and its function are correctly matched?

A. Cell body - receive message C. **Axon - sends message**

B. Dendrite - contains nucleus D. Myelin sheath – receives

17. If you spin round and round fast and stop, you feel dizzy. Why do you feel dizzy?

Because the

A. ear ossicles line up vertically.

B. fluid in your semicircular canals also stopped when you have stopped

C. .fluid in your semicircular canals keeps on moving after you have stopped

D. ear ossicles line up horizontally

18. Harmful traditional practice that involves the removal of external sex structure of young girl in surgery without anesthesia is?

A. circumcision C. sexual harassment

B. sexual abuse **D. genital mutilation**

19. Hormones involved in the regulation of blood sugar level are secreted by:

A**. Pancreas** B. Thyroid gland C. Liver D. Gonads

20. In which part of the neuron is the nucleus located?

A. Cell body B. Axon C. Dendron D. Myelin sheath

21. What do we call the region of the retina where light sensitive cells are not found?

A. Optic lobe B**. Blind spot** C. Yellow spot D. Conjunctiva

22. Which of the following structures of the brain is situated in the posterior region? :

A. Thalamus B. Cerebrum C. Hypothalamus D. **Medulla oblongata**

23. Which of the following drugs is sedative?

A. Cannabis B. Morphine C**. Sleeping pill** D. Caffeine

24. Which of the following statements describes deamination?

A. Converting excess amino acids into glycogen and urea

B. Converting excess glucose in blood into glycogen

C. Making alcohol and other poisonous substances harmless

D. Producing plasma proteins involved in the process of blood clotting

25. Which of the following physiological methods has a cooling effect on the body?

A. Vasoconstriction B. Hibernation C. Fat layer D**. Sweating**

26. Which of the following is a conditioned reflex?

A. Blinking of eyes C. Salivating on tasting food

B. Sneezing due to dust D**. Salivating on seeing food**

27. In which part of the nephron does ultrafiltration take place?

A. Collecting ducts C. Loop of Henle

B. Distal convoluted tubule **D. Bowman's capsule**

28. What is the role of liver in regulating the blood sugar level when it rises above the normal?

A. Converting the excess sugar to glycogen and store

B. Respiring the excess sugar in the body

C. Excreting the excess sugar in the blood

D. Converting the excess sugar to protein and store

29. How do mammals that live in extremely cold climates protect themselves from the cold? By:

A. Developing thick fat or fur B. Decreasing the amount of sweat produced

C. Seeking shade D. Bathing in lakes and rivers

30. Which of the following is a function of cranial nerves?

A. Activate muscles that move the eyes

B. Control reflex action

C. interprets Sensory information

D. Responsible for balancing body movement

31. Which of the following hormones stimulates liver to remove excess glucose from the blood?

A. Thyroid stimulating hormone B**. Insulin** C. Follicle stimulating hormone D. Glucagon

Item number 32 is based on the following terms related to temperature regulation.

1. Aestivation 4. Hibernation

2. Vasodilation 5. Sweating

3. Fat layer 6. Panting

32. The mechanisms involved in hot weather are:

A**. 1,256** B. 1,234 C.2,35.6 D.2,45,6

33. Which of the following hormones is secreted by pituitary gland?

A. Progesterone B. Thyroxin C. **Luteinizing hormone** D. Parathyroid hormone

34. Which of the following contraceptive methods can be used by a human male?

A. Vasectomy B. IUD C. Diaphragm D. Hormonal injection

35. Which of the following is true of poikilothermic animals? They:

A. Have high metabolic rate in their body B. Have well developed insulation

C' Have constant body temperature **D. Produce little internal heat**

36. The major difference between reflex action and normal conscious action is that, in reflex action

A. information does not reach the brain or spinal cord

B. the coordinator is the spinal cord or the brain

C. the responses are very slow

D. relay neurons play the role of coordination

37. Which of the following is true about hormones?

A. They have an effect on all tissues and organ

B. They act on target cells which lack receptor.

C. They are produced by exocrine glands

D**. produced in specific glands and transported by blood**

38. Afferent neurons carry information from the

A. central nervous system to receptors

B. central nervous system to different parts of the body

C. receptors to other parts of the body

D. receptors to central nervous system

39. Which of the following contraceptive methods prevents the implantation of the early embryo?

A. The diaphragm **B. The intrauterine device**

C. The mixed pill D. Sterilization

40. The traditional belief behind female genital mutilation is that, it:

A. keeps girls clean and gets acceptance by men for marriage

B. avoids infection throughout their life.

C. increases the fertility of individuals.

D. allows easy delivery of child ruing birth.

41. Which of the following serves as an excretory organ in your body?

A, Liver B. Pancreas C**. Lung** D. Heart

42. What do we call a change of electrical potential on the surface of a neuron when it is stimulated?

A. **Action potential** B. Resting potential C. Polarization D. Neurotransmission

43. Which of the following stimuli is responded by tongue?

A. Movement B. Sound C. **Chemical** D. Light

44. Effectors organs include

A. efferent and afferent neurons B. sensory receptors and neurons

C. brain and spinal cord D. **muscles and glands**

45. When does the ripening egg burst out the follicle in the menstrual cycle?

A. After 20 days from the monthly period has started

B. After 10 days from the monthly period has started

C. After 14 days from the monthly period has started

D. After 28 days from the monthly period has started

46. In human body, which hormones are used to control the blood glucose level?

A. Testosterone and thyroxin B. Adrenalin and glucagon

C. **Insulin and glucagon** D. Thyroxin and progesterone

47. Which of the following bones of the middle ear fits between the other two bones?

A. Stirrup B**. Incus** C. Stapes D. Malleus

48. Which of the following is a secondary sexual characteristic of males?

A. Broadening of shoulder and chest B. Production of ova from ovaries

C. Beginning of menstruation D. Development of breast

49. How is the pressure in the middle ear equalized to that in the throat when you are flying in an aeroplane?

A. By plugging cotton into your ear canal B. By shaking your head continuously

C. By closing the pinna over the ear canal D**. By opening the Eustachian tube**

50 .Which of the following organism's body temperature is governed by environmental temperature?

A. Sheep B**. Lizard** C. Lion D. Ostrich

51. Which of the following is a physiological method of temperature regulation in homiotherms?

A. Bathing B. **Panting** C. Aestivation D. Hibernation

52. Which of the following is true about short sighted people?

A**. They should wear concave lenses** B. Their lens is weaker than normal

C. They can see clearly distant objects D. Their eye ball is shorter than normal

53. Which of the following is the function of the liver?

A. It controls the water level of the body B. It removes mineral ions form the body

C. It removes urine form the body **D. It controls the sugar level of the body**

54. How are hormones able to find their target cells?

A. The cells contain receptor cells specific to the hormone.

B. The glands and the cells are located near to each other.

C. The hormones and the cells are made up of identical materials.

D. The hormones are taken to the cells by carrier molecules.

55. The eye lens is flexible in shape. This allows to:

A. Control the amount of incoming light **B. Accommodate near and distant objects**

C. Transmit different colors of light D. Pass more light in dim condition

56. What is the significance of homeostasis? It is significant to

A. Burn food molecule to produce carbon dioxide

B**. the internal conditions of the body in a stable state**

C. increase the cellular activities of our body systems

D. denatures the enzymes and stop cell activities in our body.

57. When poikilotherms get too hot, they:

A. erect special sails of their skin

B. Press their body in warm surface

C. move into shade

D. Bask in the sun

58. Which of the following organisms is a poikilotherm animal?

A. Fish B. Elephant

C. Ape D. Human

59. The peripheral nervous system is made up of

A. spinal cord and sensory receptors B. **nerve cells and sensory receptors**

C. brain and nerve cells D. spinal cord and brain

60. Which of the following actions is considered as reflex?

A. Drinking B. Walking C. Sleeping **D. Breathing**

61. After information is processed in the central nervous system, instructions are sent to the body by specific neurons which are known as

A. afferent Neurons B. sensory neurons C. affector neurons **D. efferent neurons**

62. The part of the skull that encloses the brain is

A**. cranium** B. myelin sheath C. spine D. vertebrae

63. Which of the following parts of the eye is responsible for controlling the amount of light reaching the retina?

A. Choroid **B. Iris** C. Pupil D. Cornea

64. What is the cause of diabetes mellitus?

A. More production of adrenaline by adrenal gland B. More production of progesterone by ovary

C. Less or no production of insulin by pancreas D. Less or no production of bile by liver

65. Which of the following is true about the functions of gonads?

A. They produce hormones that control the use of oxygen by the body tissues.

B. They produce hormone that control the metabolic activity of the body.

C. They produce hormones of fight or flight

D. They produce hormones that control the development of secondary sexual characteristics.

66. Female genital mutilation (FGM) is one of the traditional activities widely practiced in our country. Which of the following is the consequence of FGM?

A. It makes women cleaner **B. It brings many problems at giving birth**.

C. It makes sex more pleasurable D. It makes women more fertile.

67. The development of HIV infection into AIDS can be controlled by taking

A. balanced diet B. illegal drugs

C. anti- HIV medication D. different vaccines

68. A contraception method that involves implanting small silicon capsule containing female hormones under the skin is

A. mixed pills B. intrauterine device

C. hormone injection **D. hormone implant**

69. Which of the following body adaptations of an animal is correctly matched with the environments?

A. Cold environment → thick layer of body fat

B. Desert environment → Small ears

C. Desert environment → thick fur coat on the outside

D. Cold environment → big ears and thin fur

70. Which of the following statements is correct about drug abuse? It

A. has no risk as long as it is taken in small doses

B. has no any adverse effect

C. increases the health of brain

D**. is becoming more of health problem**

71. How is long sight corrected? By

A**. using convex lens** C. using concave lens

B. removing ciliary muscles D. wearing sun glasses

72. Which of the following methods is different from the others?

A. Aestivation B. Pills C. Condom D. Diaphragm

73. Which one of the following is a harmful traditional practice?

A. **Female genital mutilation** C. Using UID for birth control

B. Using female condom D. Discrimination of AIDS patient

74. Which of the following methods is correct about regulation of temperature in reptiles?

A. Panting **C. Basking in the sun**

B. Vasoconstriction D. Sweating

75. What is accommodation? It is:

A. the defect due to irregular egg-shaped structure of the eye

B. a process of collecting sound wave and directing to eardrum

C. inability to hear sound due to the damage of eardrum

D**. Ability of the human eye to focus an object at different distances**

76. How is image formed in human eye? When light from an object is focused on

A. lens B. iris C. cornea **D. retina**

77. Which of the following structures of human ear collects sound waves?

A. Ear canal B. Eustachian tube

C. Cochlea **D. Pinna**

78. Which of the following structures produces hormones?

A. Gland B. Neuron C. Organ D. Vessels

79. Which of the following glands produces luteinizing hormone?

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

80. Which of the following is true about the neurotransmitter? It is

A. **a chemical released when a neuron reaches at a synapse**

B. an electrical event across the membrane of axon

C. an electrical potential on the surtace of a cell

D. a gap whenever one neuron ends and another begins

81. Which of the following statements describes the harmful effect of drug? It

A. increases concentration for proper management

B. improves the living system of the entire community

C**. exposes the user to sexually transmitted disease**

D. helps to make good decision throughout life

82. Diabetes mellitus is caused when

A. regular body exercise is avoided.

B. pancreas doesn't produce enough insulin.

C. pancreas doesn't produce glucagon.

D. carbohydrate rich food is reduced from

83. Which of the following statements is true of exocrine gland? It

A. has special tube to carry its secretion

B. is ductless and controls reproduction

C.secrets hormone directly into the blood

D. includes pituitary and thyroid glands

84. Organisms that have constant internal body temperature are known as

A. cold blooded B. environmental dependent

C. homoeothermic D. poikilothermic

85. Which of the following mechanisms is a physiological method of temperature regulation?

A. Bathing B. Clothing C. Hibernation **D. Sweating**

86. Older people have accommodation problems and they cannot focus easily on close objects. What is the cause of this problem?

A**. Hardening of the lens** C. Roughness of the eye ball

B. Weakening of the lens D. Smoothness the eye ball

87. Which of the following structure is different from others?

A. Malleus B. Incus C. Stapes **D. Sclera**

88. What is the function of thyroxin in human body?

A. It controls the metabolic rate of the body

B. It controls the blood glucose concentration.

C. It causes the development of embryo inside the uterus.

D. It causes the development of secondary sexual characteristics.

89. The peripheral nervous system is made up of

A. brain and nerve cells

B. spinal cord and brain

C. spinal cord and sensory receptors

D. Nerve cells and sensory receptor

90. Which of the following actions is considered as reflex?

A. Walking B. Drinking

C**. Breathing** D. Sleeping

91. After information is processed in the central nervous system, instructions are sent to the body by specific neurons which are known as

A. affecter neurons C. afferent neurons

B. efferent neurons D. sensory neurons

92. The part of the skull that encloses the brain is

A. vertebrae B. myelin sheath

C. spine **D. cranium**

93. Which of the following parts of the eye is responsible for controlling the amount

of light reaching the retina?

A. Cornea B. Pupil **C. Iris** D. Choroid

94. The end of fertility in the reproductive cycles of a human female is known as

A. Adolescence B. Menstruation

C. Puberty **D. Menopause**

95. Which of the following contraceptive methods results in sterilization of males?

A**. Vasectomy** B. Tubectomy

C. Condom D. Norplant

96. Which of the following is the functional unit of the kidneys

A Ureter B. Bladder

C**. Nephron** D. Urethra

97. The part of the ear that has cells sensitive to sound waves is:

A. tympanic membrane B**. cochlea**

C. semicircular canal D. pinna

98. Which of the following eye defects can be corrected by wearing eye glasses with convex lens?

A. Long sight B. Blindness

C. Short sight D. Astigmatism

99. The part of the eye that is not involved in refraction of light rays is

A. fovea B. lens C. cornea D. vitreous humor

100. Which of the following hormones controls body metabolism?

A. Thyroxin B. Adrenalin

C. Corticoid D. Antidiuretic hormone

101. What is the cause of diabetes mellitus?

A. Less or no production of insulin by pancreas

B. More production of adrenaline by adrenal gland

C. Less or no production of bile by liver

D. More production of progesterone by ovary

102. Which of the following is true about the function of the gonad?

A. They produce hormones of fight or flight

B. They produce hormones that control the development of secondary characteristics

C. They produce hormones that control the use of oxygen by the body tissues

D. They produce hormones that control the metabolic activity of the body

103. Which of the following processes takes place in the kidney?

A. **Osmoregulation** C. Deamination

B. Production of bile D. Detoxification

104. Which of the following statements about the dıfferent parts of a neuron is Correct?

A. Dendron's are always connected to effectors

B. Axons are always connected to sense organs

C. Impulses flow from the cell body through Dendron

D**. Impulses flow from the cell body through the axon**

105. what is the protective structure of the human brain

C. Pleura A. Vertebral column

B. **Cranium** D. Pericardium

106. Which of the following situations is most likely to produce a reflex action?

A. Working hard in the garden B. seeing a beautiful picture

C. Seeing a meal D. Reading a text

107. The middle pigmented layer of the eye is called:

A**. Choroid** B. Retina

C. Cornea D. Sclera

108. Which of the following sensory organs has chemoreceptors?

A. The eye B. The ear

C. **The tongue** D. The skin

109. Wich of the following structures in the human body is a gonad?

A. Kidney C. pituitary

B. **Testis** D. penis

110. Poikilothermic animals maintain relatively higher body temperature by

A. the help of heat derived from the environment

B. the help of body covers such as hair

C. storing fat

D. increasing the rate of respiration

111. A bulge of cell bodies in a bundle of nerves is a(an):

A. receptor B. sensory fiber

C. effector **D. ganglion**

112. The correct pathway along which sperm passes is

A. testis, vas deferens, epididymis, ureter

B**. testis, epididymis, vas deferens, urethra**

C. testis, vas deferens, epididymis, urethra

D. testis, epididymis, vas deferens, ureter

113. Which of the following contraceptive methods makes use of a physical barrier to stop the sperm and egg from meeting?

A. Pill B. Rhythm method

C. Condom D. Injectable

114. As you are working on this exam, you think and try to memorize the answers to some questions which part of your brain is helping you on this?

A. Pons **C. Cerebrum**

B. Cerebellum D. Medulla oblongata

115. From where to where do association neurons carry nerve impulses?

A. **From sensory neurons to motor neurons**

B. From motor neurons to sensory neurons

C. From motor neurons to muscles

D. From sensory neurons to muscles

116. The point at which an impulse passes from one neuron to another is a(an)

A. axon C. nucleus

B. dendrite **D. synapse**

117. Which of the following is the fundamental unit of the nervous system?

A. Neuron B. Nerve fiber

C. Reflex arc D. Nerve net

118. A girl was reading her book She then looked out of window to focus her eyes on a tree. the lenses in eyes became:

A**. thinner** C. softer

B. fatter D. harder

119. The pancreas produces the hormone called:

A. adrenalin B. thyroxin

C. testosterone D**. insulin**

120. The drug caffeine which is found in coffee, tea, and cola drinks is a

A. sedative C. tranquilizer

B. hallucinogen **D. stimulant**

121. if you are in a situation that might demand running away or fighting, which gland will help you by increasing your efficiency?

A. Pituitary gland B. Thyroid gland

C. Adrenal gland D. Parathyroid gland

122. Underer what condition the urine output from the kidneys will usually decrease?

A. On a hot day B. After a drink of cold water

C. On a cold day D. After a meal

123. Which of the following is not involved in the formation of waste materials?

A. Lungs B. **Heart**

C. Kidneys D. Skin

124. Nerve impulses are normally carried toward a neuron's cell body by the neuron's?

A. Dendrites C. hormones

B. Synaptic cleft D. axon

125. The nucleus of a neuron is located in the

A. Dendrites **B. Cell body**

C. synapse D. Axon

126. The myelin sheath which wrap around the axons of some neurons is formed by

A. nodes of Ranvier B. dendrites

C. synapse D**. Schwann cells**

127. Which part of the eye is pigmented and contains network of blood vessels that nourish the cells of the retina?

A. Sclerotic layer B. cornea

C. Choroid layer D. Conjunctiva

128. Nitrogenous wastes may be produced as a result of the metabolism of

A. glucose B. glycogen

C. fatty acids **D. amino acids**

129. In sensory neurons, stimuli are received by the:

A. **dendrites** B. axons

C. cell body D. myelin

130. Which of the following methods of temperature regulation facilitates heat loss from the body of a mammals?

A. Thick fat deposit B. **Vasodilation**

C. Vasoconstrictions D. Hibernation

131. Which of the following are the main components of urine in addition to water?

A. amino acids and fatty acids C. ammonia and bile

B. **Urea and salts** D. Hydrochloric acid and bases

132 When you look at an intact human brain, what you see is a larger highly convoluted outer surface. This is the:

A **cerebral cortex** B medulla

C cerebellum D reticular system

133. Identify the correct sequence of structures through which glomerular filtrate passes on its journey through the nephron?

A**. Bowman's capsule, proximal tubule, loop of Henie, distal tubule, collecting duct**

B. Loop of henle, proximal tubule, Bowman's tubule, distal tubule, collecting duct

C. Bowman's capsule, collecting duct, loop of henle, proximal tubule, distal tubule

D. Loop of henle, Bowman's capsule, distal tubule, proximal tubule, collecting duct

134. Which of the following diseases is caused by the deficiency of thyroxin that results in reduction of mental and physical development in infants?

A. Goiter C. **Cretinism**

C. Obesity D. Gigantism

135. Which part of the ear is used to equalize the air pressure inside and outside the ear?

A. **Eustachian tube** B Sacculus

C. Semicircular canals D. Utriculus

136. The taste that most people sense on the back of the tongue is

A. Sweet B. **bitter**

C. salty D. sour

137. Which of the following contraceptive methods containing progesterone is placed under the skin of the upper arm and effective up to five years?

A. **Norplant** B. Pills

C. Diaphragm D. Intra uterine device

138. The amount of light entering the eye is determined by the size of the

A retina B **pupil**

C. cornea D. fovea

139. Impulses from the spinal cord to muscle fibers in the human legs are transmitted through structures known as

A. Sensory neurons B **motor neurons**

C. connective neurons D. association neurons

140. .Which of the following structures is cut and tied off in making males sterile?

A. The epididymis B. The penis

C. the vas deferens D. The seminiferous tubule

141. If one moves from a poorly lighted room to bright sunshine, which of the following changes takes place?

A. The pupil becomes wide B. **The pupil becomes narrow**

C. The lens becomes thicker D. The lens becomes thinner

142. If a certain part of the skin of an individual cannot respond to touch, which of the receptors would you conclude are destroyed?

A. Pacinian corpuscles B. Thermo receptors

C**. Meissner's receptors** D. The free nerve endings

143. Which one of the following methods is used to treat diabetes?

A. Taking more glucose B. Taking antibiotics

C. Insulin injection D. Eating red meat

144. How does the Intrauterine Device (IUD) work? By

A. preventing fertilization B. killing sperm cells

B**. preventing implantation** D. preventing ovulation

145. What is homeostasis? It is

A. production of red blood cells from the bone marrow

B. adaptation of human beings to their environment

C. absorption of food in the digestive system

D. maintenance of constant internal environment

146. Which one of the followings is correct about the adaptation of snakes to high temperature?

A. Basking in the sun **B. Moving into the shade**

C. Sweating D. Vasoconstriction

147. What is accommodation? lt is the ability of eye to

A. focus far objects than close objects

B. focus objects during the night time,

C. change the shape of the lens to focus objects

D. change the shape of retina to focus objects

148. Astigmatism is one of the common eye defects which is caused by

A. lens that is too weak and flat while ciliary muscles contract

B**. the egg shaped eye instead of round shape**

C. regular shape of the eye which becomes more rounded

D. lens that is too strong and curved while ciliary muscles relax

149. When there is no pregnancy after ovulation,

A. the egg is released from the ovary,

B. follicle is formed in the ovary.

C. oestrogen level increases.

D**. progesterone level decreases.**

150. What is the difference between endocrine and exocrine gland? Endocrine gland

A**. do not have ducts whereas exocrine glands do have ducts**

B. release their secretions through ducts to site of destination

C. are more in number in our body than exocrine glands.

D. have ducts whereas exocrine glands do not have ducts

151. Which of the following is the effect of female genital mutilation? It

A. increases sexual excitement.

B. **increase the risk of HIV infection**

D. avoids genital infection

C. reduces pain during delivery.

152. What is the function of dendrites? They transport impulse towards the

B. muscle **C. cell body**

B. sense organ D. axon

153. Which one of the following statements is correct about the reflex arc? lt is

A. flow of impulse from the spinal cord to the brain and back to sense organs

B. flow of information from receptors to the spinal cord and to the effectors

C. unidirectional flow of information from receptors to spinal cord

D. flow of impulse form the sensory neuron to the brain and spinal cord

154. Which one of the following eye defects is correctly matched with its corrective measure?

A. Long sight -convex lens

B. Short sight - irregular lens

C. Astigmatism- any eye glass.

D. Long sight - diverging lens.

155. Which area of the tongue is used to taste salty foods? The

A. sides B**. tip** C. middle D. back

156. Dilation of the blood vessels supplying blood to the capillaries in the skin is response to

A high acidity

B. low oxygen concentration

C**. hot temperature**

D. cold temperature

157. A long cytoplasmic fiber that sends message surrounding neurons is known as

A. induced cell body B. dendrite

C. axon D. nucleus

158. Suppose a person holds a very hot object and does not feel a burning pain in his hand. Which of the following neurons are probably damaged in his hand?

A. Association B. Interneuron C. Motor **D. Sensory**

159. Which of the followin likely to produce a reflex action?

A. Seeing a meal

B. Receiving a present

C. Climbing a tree

D. Reading a text book

160. When a person drinks coffee, it most likely makes him alert. This is because coffee contains

A. stimulants C. sedatives

B. hallucinogens D. pain killers

161. If you observe a person holding the paper at a distance from his eyes in order to read it, which of the following eye defects is he most probably suffering?

A. Astigmatism C. Short sight

B. Color blindness D. **Long sight**

162. The endocrine gland which is found at the base of the brain is

A. thyroid C. Parathyroid

B**. Pituitary** D. Adrenal.

163. The peripheral nervous system is composed of

A. sensory nerves **C. cranial and spinal nerves**

B. spinal nerves only D. motor nerves

164. Neurons in a spinal reflex make synapses in the

A, dorsal root B. ventral root

C. grey matter D. white matter

165. Which of the following will help you to cool your body in hot weather?

A. Wearing woolen, dark clothes C. Vasoconstriction

B. Sweating D. Fat layer

166. The gland which produces a hormone that regulates the level of calcium ions in the blood is

A. parathyroid B. adrenal C. pancreas D. thyroid

167. Which of the following is the function of the liver?

A. Excretion of excess salt B. Excretion of urea

C.Deamination of amino acids D. Maintaining of water balance

168. What happens during ovulation in a woman

A. The mature egg is released from ovary.

B. The levels of pituitary hormones begin to increase.

C. The follicle forms the yellow body called corpus luteum.

D.A new egg matures in the ovary.

169. Which one of the following ear structures collects sound waves and directs them to the ear drum?

A. Malleus B. Cochlea **C. Pinna** D. Middle ear

I70. Which of the following is true about reflex action? lt is a

A. learned response to the stimulus B. controlled response to the stimulus

C**. fast response to the stimulus** D. slow response to the stimulus

171. What protects the brain?

A. Membrane and rib bones C. Membrane and backbones

B. Membrane and skull bones D. Membrane and neck bones

172. The ability of the human eye to focus on objects at different distances is

A**. accommodation** C. short sight

B. long sight D. night blindness

173. What do we call the swelling on each semicircular canals of the human ear?

A. Ear drum B. Cupula B. Eustachian tube D. **Ampullae**

174. Which of the following Structures is part of a neuron?

A. Nephron C. Medulla

B. Ossicle D**. Axon**

175. What is the function of the axon of a nerve cell?

A**. Transport of the nerve impulse** B. Connection of neighboring cells

C. Increasing speed of the impulse D. Receiving signal from other cells

176. Which of the following is an example of reflex action?

A. Washing our face with the hands B. Peeling a banana with the hands

C. Removing a finger from a hot plate D. Writing a note on the exercise book

177. Which the following is function of thyroxin?

A. Conversion of glucose to glycogen

B. Conversion of glycogen to glucose

C. Control of the metabolic rate

D. Development of sexual characteristics

178. What do you call glands that produce secretions which are directly released to the blood stream?

A. Exocrine C. Salivary

B. Mammary **D. Endocrine**

179. Which of the following is a physical method of contraception?

A**. Condom** C. Implant

B. Pill D. Injection

280. Which of the following takes place during image formation?

A. Refraction of light by sclera

B. **Refraction of light by lens**

C. Divergence of light by the cornea

D. Divergence of light by the aqueous humor

181. Which of the following defects is different from the rest?

A**. Deafness** C. Short sightedness

B. Astigmatism D. Long sightedness

182. If a person has problem of focusing the image behind the retina, which type of lens can be prescribed to correct the problem?

A. Concave C. Scattering

B. Flat D. **Convex**

12. How are the sensory cells of the semicircular canals in the inner ear stimulated to initiate a nerve impulse? They are stimulated by

A. tilting of otoliths C. tilting of the cupula

B. vibration of the ear drums D. vibration of the ossicles

183. What do you call structures which produce secretions that have an effect on other parts of the body?

A. Vesicles C**. Glands**

B. Gonads D. Vessels

184. Which of the following glands produces insulin?

A. Thyroid C. Adrenal

B. Pituitary **D. Pancreas**

185. Part of human eye that is filled with blood vessels is

A. iris C. pupil

B. choroid D. sclera

186. Which of the following statements is correct about the given birth control methods?

A. Sterilization works only for females

B. Hormone injections stop ovulation

C. Diaphragm prevents ovulation

D. IUD prevents fertilization

187. The canal that connects the middle ear to the throat is

A. tympanum C. eardrum

B**. eustachian tube** D. trachea

188. Which of the following organisms is poikilothermic?

A. Goat C**. Frog**

B. Dog D. Donkey

189. .Which of the following neuron structures is correctly matched with its function?

A. Axon - connect neighboring nerve cells

B. Dendrites - speed up impulse transmission

C. Cell body - collects information from axons

D. **Myelin sheath - insulates nerve fibers**

190. what are the main homeostatic organs in the human body?

A. **Lung. Kidney and skin** B. Skin, anus and lung

C. Intestine, Kidney and stomach D. Kidney, stomach and lung

191. If hebetation is for cold climate, what will be the equivalent for hot climate?

A. **Aestivation** C. Vasodilation

B. Wallowing D. Panting

192. What is the cause of goiter? Lack of

A. zinc in the diet C. **iodine in the diet**

B. glucose in the diet D. protein in the diet

193. The structure of the eye that first receives light rays and lets them inwards is the

A. aqueous humour C. irs

B. choroid **D. cornea**

194. Long sight is caused due to

A. irregular eye shape C. too strong lens

B. long eyeball **D. short eyeball**

195. Diabetes mellitus can be treated by

A. keeping personal hygiene

B. avoiding sex with infected person

C. avoiding contact with infected person

D. **injecting insulin before meal**

196. What is the difference between endocrine and exocrine gland?

A. Endocrine glands produce enzymes but exocrine glands produce hormones

B. Exocrine glands are found in animals. but endocrine glands are absent

C. Endocrine glands have ducts, but exocrine have no ducts

D. Exocrine glands have ducts, but endocrine glands have no ducts

197. What is a reflex arc? It is the

A. effector of a reflex C. receptor of a reflex

B. return point of a reflex D**. neural path of a reflex**

198. This item is based on the following sequence of events that lead to the sensation of body balance.

1. Movement of fluid in semicircular canals

2. Nerve impulse created and transmitted to the cerebellum

3 Movement of the head

4, Hairs of sensory cells pressed by tilting of cupula

Which of the following is the correct sequence in the sensation of body position and balance?

A. 1, 3, 2.4 **C. 3, 1, 4, 2**

B. 3,4,2,1 D. 1, 2, 3, 4

199. The ability of the human eye to focus on objects at different distances is

A. relaxation C**. accommodation**

B. contraction D. reflection

200. Which of the following glands controls all endocrine glands?

A. Mammary gland C**. Pituitary gland**

B. Adrenal gland D. Thyroid gland

201. During image formation, light is refracted twice before it is focused on the retina. This phenomenon happens at the

A. aqueous humor and lens C. lens and vitreous humor

B. iris and lens **D. cornea and lens**.

202. Short sightedness is corrected by a concave lens because the problem arises due to a

A. weak eye lens that converges light slightly

B. powerful eye lens that diverges light

C. weak eye lens that diverges light

D. strong eye lens that converges light too soon

203. A patient exhibited symptoms of weight loss, sweating, and irritability and the doctor suspected an endocrine malfunction that can be related to the

A. pancreas **C. Thyroid gland**

B. adrenal gland D. gonads

204. Secretions of endocrine glands require receptors on cell membrane to be picked by their targets while exocrine secretions do not. This is because

A. exocrine glands secrete hormone directly to the blood stream

B. endocrine glands are ductless

C. exocrine glands are controlled by the nervous system

D. endocrine glands produce protein-based hormones

205. In hot climates, sweating cools the body because:

A. **it carries away body heat when evaporating**

B. it washes the skin making it to lose more heat

C.it reduces the amount of body water

D. it covers the skin reducing conduction of heat

206. The nerve impulse is transmitted from one neuron to another by a neurotransmitter at the

A. axon **C. synapse**

B. cell body D. myelin sheath

207. Which of the following is correct about anti-diuretic hormone (ADH)?

A. Its production is initiated by low salt concentration in the blood.

B. It works in the direction of producing dilute urine.

C. It is produced when the water content of the blood is too low.

D. It facilitates re- absorption in the first convoluted tubule.

208. What happens if the axon is stimulated? Formation of

A. negative charge in both sides of the axon

B. negative charge inside the axon

C. **positive charge inside the axon**

D. positive charge outside of the axon

209. Assume you wanted to demonstrate a simple reflex action using the knee jerk reflex. You asked a friend to sit with one leg crossed over the other. Which one of the following indicates the correct demonstration?

A. Pulling down your friend's leg that is followed by downward movement

B. Hitting your friend on the toes followed by sudden upward movement of the leg

C. Bending up your friend's leg followed by downward movement of the

D**. Hitting your friend below the knee cap followed by a sudden upward movement**

210. Breakdown of the thick spongy wall of the uterus at the end of the menstrual cycle is associated with the

A. formation of the corpus luteum

B. maturation of the follicle

C. decrease in progesterone and estrogen concentration

D. increase in oestrogen and progesterone

211. Which one of the following is a behavioral method of temperature regulation in homoiotherms?

A. Pilocrection C**. Aestivation**

B. liking D. Vasodilation

212. What will happen if the water content of the blood is too high?

A. The second coiled tubule of the kidney becomes more permeable

B. Antidiuretic hormone secretion decreases

C. Osmoreceptors stimulate pituitary gland to release ADH

D. The kidney reabsorbs more water back into the blood

213. A man may drink several liters of water for some days and very much less for the other days. However, the water balance of his body is always maintained. Which of the following organs of the body is responsible for such physiological process?

A. Liver B. Lung

C. Heart D**. Kidney**

214. Which of the following is true about homeostasis?

A. Maintains the level of CO2 in cur body

B. Increases the level of CO2 in our body

C. Decreases the level of glucose in our body

D. Raise the level of glucose in our body

215. Which of the following mechanisms is the physiological method of temperature regulation?

A. Aestivation B**. Sweating**

C. Bathing D. Clothing

216. What do you call the body's ability to maintain normal function and stability?

A. Osmosis B. Thermoregulation

C. excretion D. **Homeostasis**

217. what do you call animals which have body temperature that varies with the external temperature?

A**. Poikilotherms** B. Hibernators

C. Homoiotherms D. Aestivators

218. Which of the following parts of the body is different from the rest in relation to homeostasis?

A. Kidney B. Skin C. **Heart** D. Liver

219. Which of the following statements is correct about female genital mutilation (FGM)? It

A. helps to make girls pure

B. makes girls acceptable by men

C. **increases exposure to HIV/AIDS**

D. helps women to give birth easily

220. Astigmatism is the defect of an eye which happens when the

A. shape of the eye is irregular and cornea is curved asymmetrically.

B. lens is too strong and the eye ball is too long.

C. shape of the eye is regular and the eye ball is too short.

D. lens is too weak and the eye ball is too short.

221. The gland that enlarges in to a goiter as a result of iodine deficiency is

A. Adrenal B Parathyroid

C. pancreas **D. thyroid**

222. Suppose a girl looked like a boy in her external features. This situation could be due to the lack of the hormone called:

A. Testosterone C**. Oestrogen**

B. Adrenaline D. Insulin

223. A wave of depolarization across a neuron is known as:

A**. Action potential** C. Impulse potential

B. Membrane potential D. Resting g potential

Unit 4

Food manufacture in higher plants

1. Which of the following plant hormones induces root formation in stem cuttings?

A. Auxin B. Gibberellin C. Cytokinin D. Ethylene

2. Leaves are arranged in an opposite, alternate, and whorled manner. These arrangements are important in that they:

A. Provides strength to the stem B. Facilitate development of lateral buds

C**. Allow for maximum amount of light reception** D. Allow flowers lo receive enough light

3. The function of the epidermal cells of a leaf is to:

A. Undergo respiration B. Store food C. Absorb light D. **Minimize water loss**

4. If the tips of a young plant are removed, growth in length stops. This is because the tip contains:

A. Maturing cells B. Elongating cells C. Dormant cells D**. Dividing cells**

5. Which of the following is true of plant grown in dark?

A. Short with well-developed stems B. Long and well developed green leaves

C. Short and fully expanded green leaves D. **Long and weak stems**

6. Plant roots grow towards the sources of water in the soil. This

A. Phototropism B. **Hydrotropism** C. Chemotropism D. Geotropisim

7. Which of the following plant cells do not photosynthesize?

A. Spongy cells B. Guard cells C. **Phloem cells** D. Palisade cells

8. Which of the following leaf features is important for photosynthesis?

A. Arrangement B. Margin C. Venation D. Size of petiole

9. In testing for starch, a leaf is put in boiling water. This is to:

A. Breakdown starch into sugars B. Remove the chlorophyll from the leaf

C. Make the cells soft for the test D. **Kill the cells in the leaf**

10. Seed dispersal is important in that it:

A. Protects seeds from insect pests B**. Avoids overcrowding and competition**

C. Ensures germination and growth D. Increases variation

11. An onion plant reproduces by producing bulbs. This kind of reproduction is known as.

A. Budding B. Binary fission C**. Vegetative reproduction** D. Sporulation

12. During photosynthesis the hydrogen ions used to reduce carbon dioxide originates from;

A. Air B**. Water** C. Glucose D. Minerals

13. The tiny hole found on the bean seed coat is known as:

A. Radicle B. Plumule C. Hilum D. **Micropyle**

14. Which of the following occurs during the dark reactions of photosynthesis?

A. Splitting of water molecules into hydrogen and oxygen

B. Energy is stored in ATP andsugar

C**. Synthesis of glucose**

D Absorption of light energy

15. During germination of monocot seeds, the embryo obtains food from:

A. Epicotyl B. Testa C**. Endosperm** D. Plumule

16. What do phloem vessels carry?

A. Mineral ions only B. Water and chlorophyll C. Water **D. Dissolved sugar**

17. Which of the following is an example of hydrotropism?

A. Pollen tubes grow toward ovaries B. Shoots grow towards light source

C. Roots grow towards a source of water D. Tendrils grow around stems

18. Which of the following is **true** of the light dependent reaction of photosynthesis? It:

A**. Splits water molecules into hydrogen and oxygen**

B. Occurs outside chloroplasts

C. Gives off hydrogen as waste product

D. Supplies oxygen for synthesis of carbohydrates

19. Which of the following layers of a leaf has largest number of chloroplasts?

A. Spongy mesophyll B**. Palisade mesophyll** C. Lower epidermis D. Upper epidermis

20. Which of the following plant hormones is correctly paired with its function?

A. Ethylene - inhibits fruit ripening B. Abscisic acid - stimulate growth

C. Gibberellic acid - inhibits growth **D. Cytokinin - stimulates cell division**

21. How does the carbon dioxide used during photosynthesis get into the plants? By:

A. Active transport B. Endocytosis C**. Diffusion** D. Osmosis

22. Which of the following is true about photosynthesis?

A. It reduces the level of atmospheric oxygen B. It releases carbon dioxide to atmosphere.

C. It requires sun light and oxygen D**. It takes place in green plants**.

23. The light dependent photosynthetic reaction produces

A. glucose and carbon dioxide B**. energy, hydrogen and oxygen**

C. glucose and oxygen D. hydrogen, water and carbon dioxide

24. The rate of transpiration is high

A. in dry and windy condition B. in rainy season

C. in cold and humid condition D. when the rate of evaporation is low

25. Why do we put a leaf in boiling ethanol when we carry out starch test?

A. To stop all the chemical processes by killing the leaf cells

B. To remove the green pigment of the leaf

C. To dissolve the starch in the leaf

D. To soften the leaf that has been brittle

26. The purpose of placing a leaf in ethanol during starch test is

A. removes the epidermis

B. dissolves the starch

C. kills the leaf

D**. dissolves out the chlorophyll**

27. Which of the following ingredient are required to undergo photosynthesis in leaf?

A. Carbon dioxide, glucose, and chlorophyll

B**. Carbon dioxide, water, and chlorophyll**

C. Carbon dioxide, oxygen, and chlorophyll

D. Oxygen, water and chlorophyll

28. Why do plants convert their primary product of photosynthesis glucose to starch?

A. Because large amount of glucose becomes toxic for plants

B. Because starch is important for making cell wall of plants

C. Because glucose cannot be used for respiration directly

D**. Because starch does not affect the water balance**

29. In one of the starch test experiment, variegated leaf is used to show the importance of

A. light B. carbon dioxide C**. Chlorophyll** D. water

30. Which of the following is the nutritive tissue of the seed?

A. Plumule B. Micropyle C. E**ndosperm** D. Testa

31. Which of the following parts of a leaf is known as the main Vein?

A. Apex B. **Midrib**

C. Petiole D. Blade

32. Which of the following structures of a leaf is correctly matched with its function?

A. Spongy mesophyl - big surface area for gas exchange

B. Waxy cuticle - main photosynthetic tissue of the plant

C. Palisade mesophyll - controls the entry of carbon dioxide

D. Lower epidermis - water proof layer to prevent water loss

33. During Photosynthesis, chlorophyll is important

A. as hydrogen source B. as carbon source

C**. to capture sun light** D. to split water

34. How does photosynthesis balance 02 and CO2 concentration in the atmosphere? Through

A. releasing both O2 and CO2 during the process

B. absorbing both O2 and CO2 during the process

C. absorbing 02 and releasing CO2 during the process

D. absorbing CO2 and releasing 02 during the process

35. What is transpiration? It is the process of:

A. losing water vapor from the leaves of plants

B. maintaining a constant internal environment

C. co-ordination and control of the body by hormones

D. preparing starch by plant leaf using carbon dioxide

36. Horizontally growing underground stems of plants are known as:

A. Runners B. **Rhizomes** C**.** Climbers D. Bulbs

37. How does water move in plants? By

A. passive process B. active process

C. force pumped mechanism D. utilizing energy

38. Which of the following plant hormones inhibits growth?

A. Geberallic acid **B. Abscisic acid**

C. Cytokinins D. Auxin

39. The movement of water from the roots up to the top leaves of tall trees is carried out by

A. loss of water by transpiration and its replacement by osmosis

B. active transport in the roots and osmosis in the leaves

C. the low' cohesive and adhesive forces of water in the xylem

D. active transport in both the roots and leaves

40. Why do plant shoots grow towards unidirectional sunlight? Because

A. distribution of lAA on the illuminated side is less

B. indole-3-acetic acid (1AA) inhibits shoot growth

C. the anrea of the shoot exposed to light gets more 1AA

D. of balanced distribution of 1AA in the shoot

41. the two colors of light most useful in photosynthesis are

A. green and orange B. yellow and blue

C. infrared and yellow D. **red and blue**

42. What is the importance of turgor pressure for plants? It

A. makes plants cells to plasmolyse B. prevents loss of water from plants

C. helps roots to lose excess minerals **D. keeps plant parts rigid and firm**

43. How does photosynthesis balance concentration of O2 and CO2? It

A. releases oxygen and absorbs carbon dioxide form the atmosphere.

B. oxidizes and removes the carbon dioxide from the atmosphere.

C. converts oxygen to ozone and carbon dioxide to carbonic acid.

D. releases carbon dioxide and absorbs oxygen from the atmosphere.

44. Water uptake by roots is facilitated by

A. high concentration of water in the roots

B. the large vacuoles in the roots and leaves

C. high surface area of the root hairs

D. active transport of water molecules

45. Which of the following transport process takes place in the phloem? The movement of

A. mineral form the toots to the leaves

B. organic materials form the leaves to other parts

C. C02 form the air to the palisade mesophyll

D. water form soil to the roots.

46. What is the effect of removing apical dominance? It

B. increases stem length

D. prevents fruit formation

A. increases water loss.

C. causes side shoot growth

47. The tendency of plants to grow towards water is

A. chemotropism B. geotropism

C. hydrotropism D. phototropism

48. What is the role of chlorophyll in photosynthesis? To absorb

A. carbon dioxide B**. light energy**

C. water molecules D. oxygen gas

49. How do plants absorb mineral ions?

A. Without using the action of enzymes

B. By using energy from the plant

C. Without using energy from the plant

D. By the action of enzymes as carriers.

50. What is the function of the palisade mesophyll? It used

A. for absorption of water and minerals

B. **to make food by photosynthesis**

C. for gas exchange between leaves and the environment

D. for protection of water loss from the leaf surfaces

51. A green pigment of a leaf that absorbs light energy from the sun is

A. ethylene C. **chlorophyll**

B. auxin D. chloroplast

52. Water uptake by roots of a plant is

A. passive transport B. chemical-requiring transport

C. energy-requiring transport D. active transport

53. Xylem plays a major role in the roots of plants by transport of

A. carbon dioxide C. sugar molecules

B**. minerals salts** D. chlorophyll

54. Auxin (1AA) is a plant hormone which stimulates plant elongation. What will happen if it is removed from the tip of the plant? The plant

A. stops growth B. increases in height

C. will die D. grows from the side

55. Transpiration in plants is high in

A. humid condition B. cold condition

C. windy condition D. wet condition

56. What is the impact of transpiration on agricultural plants?

A. very low transpiration increases the growth of agricultural plants

B. higher transpiration increases the activities of agricultural plant cells

C. higher transpiration increases the chance of growth of agricultural plants

D**. high transpiration rate increases the chance of agricultural plant wilting**

57. Which of the following is true about tropism?

A. Root is positive to phototropism **B. Shoot is positive to phototropism**

C. Shoot is positive to geotropism D. Root is negative to geotropism.

58. A gaseous plant hormone which causes fruit ripening is

A. gibberellic acid **B. ethylene**

C. abscisic acid D. cytokinin

59. Which one of the following is true about the function of stoma? Stoma

A. allows water to diffuse into the leaf.

5. Allows oxygen to diffuse into the leaf

C. allows carbon dioxide to diffuse out of the leaf.

D. allows carbon dioxide to diffuse into the leaf.

60. Light is important for photosynthesis to

A. combines hydrogen and oxygen to form water.

8. **Split water molecule into hydrogen and oxygen**.

C. combine carbon, hydrogen, and oxygen to form sugar

D. split sugar molecule into carbon, hydrogen, and oxygen.

61. Unlike tropisms, nastic movements are in response to

A. darkness C. **non-directional stimuli**

B. wind D. directional stimuli

62. which of the following is correct about a geminating seed?

A. Cotyledons begin photosynthesis

B. Cotyledons become a shoot

C. plumule develops into a root

D Embryo develops into a seeding

63. The two functions of the leaf as photosynthetic organ are to

A. capture energy and carbon dioxide

B capture carbon dioxide and oxygen

C. capture light energy and water vapor

D. release oxygen and carbon dioxide

64. The mesophyll of a leaf has two distinct layers known as

A. upper and lower epidermis

B. spongy and epidermis

C**. palisade and spongy**

D palisade and air space

65. Which of the following parts of a germinating seed gives rise to the apical meristem?

A. Epicotyl B. Radicle

C. Micropyle D. Hypocotyl

66. When you look at the transverse section of a leaf under a microscope, which of the following is the correct sequence from the upper surface to the lower one?

A. Palisade cells, spongy cells, upper epidermis, lower epidermis

B. Palisade cells, upper epidermis, lower epidermis, spongy cells

C. Upper epidermis, spongy cells, palisade cells, lower epidermis

D**. Upper epidermis, palisade cells, Spongy cells, lower epidermis**

67. Which of the following parts of a dicot plant leaf contains the largest number of chloroplasts?

A**. Palisade layer** B. Spongy layer

C. Epidermis D. Stomata

68. Which of the following is the correct order of events in a plant life cycle?

A. **Pollination; fertilization; seed dispersal; germination**

B. Pollination; germination; seed dispersal; fertilization

C. Germination; fertilization; pollination, seed dispersal

D. Germination, pollination, seed dispersal; fertilization

69. What do xylem vessels carry?

A**. Water and mineral salts up stems from the roots**

B. Water and mineral salts down stems to the roots

C. Dissolved sugars up stems from the roots

D. Dissolved sugars down stems to roots

70. Which of the following structures is responsible for the absorption of water from the soil?

A. Phloem C. Xylem

B. Root hair D. Cortex

71. Which of the following is not essential for germination?

A. Suitable temperature B. **Light**

C. Oxygen D. Water

72. Which structure of a leaf prevents excessive loss of water from leaf surfaces?

A. Spongy layer B. Palisade layer

C. Air spaces D. **Cuticle**

73. Which of the following plant hormones can initiate root growth in stem cutting?

A. Cytokinin B. Ethylene

C. Auxin D. Gibberellin

74 . What is the main function of spongy mesophyll?

A. controls the size of stomata B. is involved in water conservation

C. protects the leaf from damage **D. facilitates gaseous exchange**

75. How is water in xylem transported upward to the top of the plant?

A. By using cellular energy

B. By pulling of transpiration stream

C. Due to high mineral concentration in the soil

D. By using only active transport

76. Which of the following do you recommend to minimize the negative effect of transpiration in agriculture?

A. Cutting the tip of stems C. Planting crops in line

B. Fertilizing the soil **D. irrigate the land**

77. Which of the following plant hormones stimulates cell division?

A. Ethylene C. Auxin

B**. Cytokinin** D. Gibberelic acid

78. Why is apical dominance removed when the growing tip is cut?

Because the

A. negative effect of auxin on side shoots stops

B. positive effect of auxin on side shoots stops

C. positive effect of auxin on main shoots is enhanced

D. amount of auxin produced at the tip increases

79. Which of the following structures of a leaf helps to prevent water loss?

A. Palisade mesophyll C**. Waxy cuticle**

B. Spongy mesophyll D. Upper epidermis

80. A biology student destarched a variegated plant and exposed to light for several hours. Finally he did starch test in the leaf using iodine solution and blue black color formed only on the green part of the leaf. Which of the following requirements of photosynthesis did he test by the experiment?

A. Water C. Light

B. Carbon dioxide **D. Chlorophyll**

81. Suppose you germinate a bean seed in a school garden, what will happen for the seedling as it emerges from the soil? Its

A. side roots emerge above the soil B. plumule remains underground

C. cotyledons emerge above the soil D. cotyledons remain underground

82. What is the importance of light for photosynthesis? It is used

A. to split CO2 into carbon and oxygen

B. as the source of hydrogen

C. as the source of carbon

D. to split water into hydrogen and oxygen

83. Which of the following statements is correct about the movement of organic materials in the phloem?

A. Phloem tissue is dead and no active transport takes place in it.

B**. Plants use energy to move organic materials through the phloem.**

C. Phloem transports organic materials that are absorbed by the root from soil.

D. The movement of organic substances in the phloem is due to transpiration.

84. Which of the following hormones causes fruits to ripen?

A. Gibberellic acid C. Cytokinins

B. Ethylene D. Abscisic acid

85. The most important reaction on earth that converts light energy into chemical energy is termed as

A. anabolism C**. photosynthesis**

B. respiration D. catabolism

86. Which of the following structures and functions of a leaf is correctly matched?

A. Lower epidermis - absorbs water

B. **Palisade mesophyll - carries out photosynthesis**

C. Spongy mesophyll - prevents water loss through transpiration

D. Waxy cuticle - allows water to be released to the environment

87. Which one of the following may NOT be regulated by a plant hormone?

A. **Seed dispersal** C. Cell elongation

B. Cell division D. Fruit ripening

88. Bushing of a plant results from

A. cancellation of the positive effect of apical dominance

B. removal of the inhibitory effect of auxin

C. decreased production of auxin by side shoots

D. increased production of auxin by the main shoot

89. In klinostat experiment, rotating the cork with a germinating seed could not stop the root bending down towards gravity and the shoot bending up against gravity. This shows that

A. shoots and roots are similarly responsive towards the rotating cork

B. gravity does not have any effect on root and shoot growth

C. shoots are positively geotropic and roots are negatively geotropic

D. roots are positively geotropic and shoots are negatively geotropic

90. What is the role of chlorophyll in photosynthesis?

A. Absorbing CO2

B. Capturing light

C. Splitting water

D. Releasing O2

91. Which of the following statements is true about photosynthesis?

A. Photosynthesis contributes for the increase of world temperature

B. Photosynthesis can be processed by some small animals.

C. Photosynthesis converts chemical energy into light energy

D. Photosynthesis is the ultimate source of energy for the Earth

Unit 5

Natural resource conservation

1. Which of the following fertilizers is different from the others?

A. Animal dung C. Green manure C. **Ammonium nitrate** D. Compost

2. When air bubbled through a mineral solution in which a plant is grown, mineral uptake by the plant increases. This is because:

A**. The plant needs energy to take up the mineral** B. Air forces the mineral into the plant

C. Bubbling mixes the solution D. Bubbling creases the rate of osmosis

3. It is advisable to use organic fertilizers than inorganic fertilizers. This is because inorganic fertilizers:

A. Are difficult to apply B. Have less mineral content

C. Are very expensive to purchase **D. Can make the soil acidic if over used**

4. Deforestation contributes to global warming. This is because it:

A. Decreases the absorption of heat by water bodies

B. Increases the rate of photosynthesis resulting the production of more oxygen

C. Decreases the amount of oxygen in the atmosphere

D. Increases the amount of carbon dioxide in the atmosphere

5. How does monoculture atfect biodiversity? It replaces

A. One species by another species B. a biodiversity rich area by a bare land

C. a biodiversity rich area by a single crop plant D. One species by many species

6. How do predators contribute in conserving our vegetation?

A. By keeping down the number of herbivores B. By feeding on a specific species of plants

C. By eradicating herbivores from an area D. By feeding on unimportant weeds

7. Which of the following is the effect of ozone layer depletion?

A. High frequency of acid rain B. Oxygen deficiency in the atmosphere

C. No access of ultraviolet radiation to humans D**. Intensification of global warming**

8. The difference between sanctuaries and national parks lies in those sanctuaries

A. is devoted to the conservation of a particular species of wild life.

B. gives more attention to vegetation than wild life conservation.

C. do not have Protected boundaries.

D. is limited to high land areas of our country.

9. Which of the following is correct about renewable resource? Renewable resource:

A. if used cannot be replaced B. do not required careful management

C. include gold, iron and fuel **D. can be used, reused and replaced**

10. Oils and minerals are considered as non-renewable natural resources because:

A. they are not recycled

C. they are formed from rocks

B. they are expensive

D. they are formed from living things

11. What is biodiversity? It is the:

A. measure of wealth of species in a place

B. abolishing of a stable ecosystem by human activates

C. biotic and non-renewable natural resource we have

D. interaction of the biotic environment

12. Which of the following fertilizers is different from the others?

A. Animal dung C. Green manure C. **Ammonium nitrate** D. Compost

13. A condition by which accumulation of carbon dioxide in the atmosphere results in global warming is called

A. **greenhouse effect** B. ozone layer depletion

C vegetation D. leaching

14. Which of the following may result in pollution?

A. Treatment of sewage

B. Strip cropping of hilly sides

C. Reforestation of mountainous areas

D. Industrial and household wastes

15. What do we call a measure of the wealth of species in a given place?

A. Environment B. Biomass C. Ecosystem D**. Biodiversity**

16. Which of the following statements is correct about the importance of conservation

A. Conservation maintains healthy biodiversity in the ecosystem.

B. Conservation maintains pure air and water in the ecosystem.

C. Conservation reduces the biodiversity from the ecosystem.

D. **Conservation gives favor for single species in the ecosystem**.

17. Which of the following plant is endemic to our country?

A. Maize B. Coffee C**. Sembo** D. Bean

18. Which of the following methods is used to conserve wildlife?

A. Mixing wildlife with the domestic species

B. Allowing poaching for economical use

C, Shifting their habitat and niche

D. Setting national parks and sanctuaries

19. Which of the following activities is considered as a method of wildlife conservation? Increasing

A. the size of National Parks to protect wildlife

B. the spread of disease

C. the breeding of wildlife with domestic animals

D. deforestation in the ecosystem

20. Which of the following statements is correct about renewable resources? They

A cannot be replaced or reused

B. never lost no matter how much we use them

C. are mainly fossil fuels and minerals

D. are mainly living things and their products

21. Which of the following statements is correct about the importance of conservation? It

A. preserves best quality seeds only B. enhances monoculture of crop variety

C. develops less resistant crop varieties **D. preserves genetic diversity**

22. Which of the following methods helps to conserve biodiversity?

A. Deforestation of exotic species

B. Setting up protected area

C. Interbreeding of plants species

D. Elimination of unnecessary organism

23. What is the measure of the variety of species in a particular area, including everything from the smallest microbes to the largest animals?

A. Polyculture B. Monoculture

C. Conservation **D. Biodiversity**

24. Which one of the following is a method of conservation of vegetation?

A. replanting of lands with indigenous plants

B. burning of plants which have no immediate use

C. planting trees that take long time to produce seeds

D. covering more area of land with exotic plants

25. How could a farmer increase crop yield in an area of very high wind speed?

A. Pots B. Desert areas

C. Swampy areas **D. Sheltered places**

26. What is the use of wildlife? It is used to

A. maximize soil erosion B. degrade crops from farmland

C. reduce the genetic resources **D. generates income from tourism**

27. What is the importance of protecting the natural environment? Because it

A. ensures the presence of healthy weather and climate

B. increases the accumulation of C02 in the atmosphere

C. reduces the availability of decomposers for waste removal

D. increases the effect of global warming

28. Which of the following statements is true about vegetation? lt

A. causes air pollution

B. is a source of clothes and foods

C. reduces the amount of O2 in the air

D. causes global warming

29. Which of the following animals is found in Bale Mountains National park?

A. Flamingo B. **Mountain nyala** C. Walya D. Zebra

30. The burning of fossil fuels causes air pollution by

A. releasing burnt hydrocarbon particles into the air

B. producing and releasing carbon dioxide into the air

C. producing and releasing nitrogen dioxide into the air

D. releasing unburnt hydrocarbon particles into the air

31. Which one of the following is a renewable resourcer

A. Livestock D. Fossil fuels

B. Coal C. Gold

32. How deforestation is directly related with carbon building that leads to global warming. By

A. increasing the forest cover that can trap the excess CO2 in eh atmosphere

B. increasing the ocean area that can trap the excess CO2 in to atmosphere

C. the loss of so many plants that can trap the excess CO2 in the atmosphere

D. the loss of so many animals that can trap the excess C02 in the atmosphere

33. How does deforestation cause global warming? By

A. increasing the level of photosynthesis that gives us excess oxygen

B. clearing of plants that take-up excess carbon dioxide in the atmosphere

C. increasing the level of photosynthesis that take-up excess CO, from the atmosphere

D. clearing of plants that take up excess oxygen from the atmosphere

34. Which of the following plants is endemic to Ethiopia?

A. Olive B. Blue gum

C. Niger seed D. Maize

35. Which of the following animals is found in Nechisar National Park?

A. Mountain nyala

B. Crocodile

C. Walia ibex

D. Gelada baboo

36. Which of the following chemicals causes the depletion of ozone layer in atmosphere?

A. Chlorofluorocarbons

D. carbon dioxide

C. carbon monoxide

B. Sulphur dioxide

37. Which of the following statements describes renewable resources?

A. They can be used but are unable to be replaced

B. They are mainly non-living and replaced

C. They are mainly living things and their products

D. They can be replaced but unable to be reused

38. Deforestation clears plamts from the environment that trigger global warming

How deforestation facilitate global warming?

A. Deforestation is important to reduce CO2 from the environmental air

B. Deforestation facilitates the accumulation of CO2 in the air that leads to global warming

C. Deforestation facilitates accumulation of excess O2 in the air that leads to global warming

D. Deforestation facilitates accumulation of excess O2 in the air that leads to global warming

39. One negative global consequence of large scale deforestation is that it may result in

A. A rise in the atmospheric composition of N2

B. A rise in the atmospheric composition of O2

C. A rise in the atmospheric composition of CO2

D. A reduction in the atmospheric composition of CO2

40. Which of the following substances increase the greenhouse effect most?

A. Oxygen and CFC'S

B**. Methane and carbon dioxide**

C. Nitrogen and methane

D. Sulfur dioxide and nitrogen

41. Clean air should NOT contain

A. **carbon monoxide** C. nitrogen

B. carbon dioxide D. oxygen

42. The chemical which is responsible for ozone depletion in the atmosphere is

A. sulphur dioxide **B. chloroflouro carbon**

C. nitrogen oxide D. carbon monoxide

43. The Konso people in Southern Ethiopia have developed a very good system of controlling soil erosion which involves the cultivation along the line if contours in horizontal strips supported by walls. This type of soil and water conservation is known as

A. mulching B**. terracing**

C. check dam D. wind break

44. The Conservation area which is designed to give maximum protection to the largest wild animals is

A. sanctuary B**. national park**

C. wildlife museum D. wild life reserve

44. Which of the following is a non renewable natural resource?

A. Forest B. Wildlife

C. **Oil and mineral** D. water

45. When we say an endemic plant or animal species of Ethiopia we mean that

C. endangered in Ethiopia

A .first discovered in Ethiopia

B. found in large numbers in Ethiopia

D**. found only in Ethiopia**

46. A conservation area that gives maximum protection to wild animals is a:

A. Wildlife Reserve C**. National Park**

B. Wildlife Sanctuary D. Zoo

47. Which of the following energy is generated from organic wastes through fermentation

A. Hydropower B. Geothermal

C. Solar energy **D Biogas**

48. The greenhouse effect is

A. the result of the differences in the angle of the sun rays

B. an unnatural phenomenon that causes best energy to be radiated back to the atmosphere

C**. the result of an excess of carbon dioxide in the atmosphere**

D. natural phenomenon that maintains Earth's temperature

49. An animal or plant species restricted in the political boundary of a given country is known as

A. Extinct species B. Endangered species

C. Indigenous species D**. Endemic species**

50.The main pollutants involved in depleting the ozone layer is

A. fossil fuels B. industrial furnaces

C. pesticides **D. chlorofluorocarbons**

51. Which of the following methods of conserving vegetation is planting seedlings?

A. Preservation of plant seedling B. Enclosure

C. Controlled grazing **D. Reforestation**

52. Which of the following endemic animals of Ethiopia is a bird

A. Wattled ibis B. Chilada baboon

C. Walia ibex D. Mountain nyala

53. What is the greenhouse gas that results in global warming when accumulated in the atmosphere?

A. Ozone B**. Carbon dioxide**

C. Hydrogen D. Oxygen

54 . Which of the following indicates the advantages of conserving natural resource?

A. Reduces crop pests C. Reduces animal productiy,

B. **Protects biodiversity** D. Control population growth

54. Which of the following plants is endemic to Ethiopia?

A. Teff C. Woira

B. Bahirzaf D. Mango

55. Which of the following methods helps in biodiversity conservation?

A. Monoculture agriculture C. Planting trees for fire wood

B. Farming with tractors **D. Setting national parks**

56. Which of the following is used to conserve vegetation of our country?

A. Planting of exotic trees B. Planting only wind pollinated trees

C. Planting of bahirzaf D**. Planting endogenous trees**

57. Which of the following National Parks contains endemic wildlife of Ethiopia such walia ibex, and gelada baboon?

A. Gambella National Park B**. Simien Mountains National Park**

C. Nechsar National Park D. Bale Maintains National Park

58. Which of the following wildlife are endemic to Ethiopia?

A. Cheetah and Beisa Oryx

B. Nile crocodile and Lion

C. Hamadrias Baboon and Beisa Oryx

D. Gelada Baboon and Swayne Hartebeest

59. How is global warming caused? lt is caused due to

A. deforestation and burning of trees

B. decrease in the amount of carbon dioxide

C. increased rate of photosynthesis

D. replanting forests with native trees

60. Which of the following compounds causes serious air pollution?

A. Calcium carbonate C. Potassium hydroxide

B**. Sulphur dioxide** D. Sodium chloride

61. Which of the following are the common species of wild life found in Bale Mountain National Park?

A. Buffaloe and Cheetah

B. Lion and Elephant

C. Mountain Nyala and Gelada Baboon

D. Walia ibex and Giant Mole Rat

62. Which of the following is the best way to conserve our vegetation?

A. Replacing indigenous plants by exotic ones

B**. Replanting indigenous plants**

C. Planting fast growing exotic plants

D. Practicing monoculture

63. Which of the following activities reduces the impact of man on vegetation?

A. Conserving plants instead of animals

B. Planting exotic flora instead of indigenous flora

C. Using chemical fertilizers instead of organic fertilizers

D. Finding alternative sources of energy instead of using fire wood

64. Which of the following statements is correct about the biotic components of an ecosystem? They

A. include only pathogenic Microorganisms

B. are non-renewable

C. include temperature and rainfall

D. are living organisms

65. Currently, natural resources are being depleted at increasing rate and waste materials are accumulated and discharged freely into water bodies. What is the best strategy to overcome these problems?

A. Decomposition C. Fossilization

B. Succession **D. Recycling**

66. Which one of the following plants is NOT endemic to Ethiopia?

A. **Mango** B. Zigba C. Noug D. Enset

67. Which one of the following national parks is characterized by the presence of wildlife such as elephant, lion, cheetah, and giraffe?

A. Bale Mountains national park B. Awash national park

C. **Mago national park** D. Simien mountains national park

68. Which of Tie following statements is correct about the importance of conservation in a given ecosystem?

A. Conservation maintains healthy biodiversity in the ecosystem

B. Conservation maintains pure air and water in the ecosystem

C. Conservation reduces the biodiversity from the ecosystem

D. Conservation gives favor for single species in the ecosystem

69. which of the following methods is used to conserve wildlife?

A. Mixing wildlife with the domestic species

B. Allowing poaching for economical use

C. Shifting their habitat and niche

D**. Setting national parks and sanctuaries**

70. Which of the following activities causes global warming?

A. Burning of fossil fuels

B. Afforestation of the habitat

C. Reducing the member of livestock

D. Reducing the amount of rice farms

71. One of the most practical measures to be taken for conserving biodiversity is

A**. raising public awareness on environmental issues**

B. arming personnel that can take measures against criminals

C. taking people to court when found cutting trees

D. drafting laws that totally ban cutting of trees

72. Which of the following may result in pollution?

A. Treatment of sewage

B. Strip cropping of hilly sides

C. Reforestation of mountainous areas

D. Industrial and household wastes

73. Which of the following conditions demonstrates the effect of deforestation? Increase in:

A. O2 concentration followed by global warming

B. CO2 concentration followed by global warming

C. H2 concentration followed by global warming

D. N2 concentration followed by global warming

74. Which of the following is a non-renewable resource?

A. Oil B. Crop C. Cattle D. Tree

Ethiopian Secondary School Leaving Certificate Examination for grade 12 from 1995 – 2014

Biology Grade 11

Unit 1

The science of biology