

BIOLOGY

FOR

Senior Secondary School

3



Practice Questions and Answers

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QUESTIONS

TOPIC: BIOLOGY OF HEREDITY (GENETICS)

DIRECTION: Choose the correct answer from the lettered options.

1. Albinism is as a result of the absence of ____ pigment in the malpighian layer of the skin.

- A. keratin
- B. melanin
- C. tyrosine
- D. nicotine

2. Human height is an example of a feature which depends on both ____ and ____.

- A. genotype
- B. genetic and environmental factors
- C. mother's genotype and environmental factors
- D. phenotype and environmental factors

3. The sugar in RNA contains ____.

- A. acids
- B. hydrogen
- C. oxygen
- D. all of the above

4. _____ is a biological factor unique to each individual.

- A. DNA
- B. The eye colour
- C. The blood group
- D. Genetics

5. Which of the following traits may not be important in marriage counselling?

- A. Sex-determination
- B. Sickle-cell anemia
- C. Rhesus factor
- D. Colour of skin

6. If a baby is a female, her mother's ovum must have been fertilized by a sperm carrying the _____ chromosome.

- A. X
- B. XY
- C. XX
- D. Y

7. Which of these statements is true about the human ABO blood grouping system?

- A. Blood type B is recessive.
- B. Blood type O is dominant over type B
- C. Blood type O is co-dominant with type A
- D. Blood type O has antibodies A and B.

8. Heredity can be defined as _____.

- A. the non-resemblance of closely related organisms
- B. the total absence of parental traits in offspring
- C. the absence of variation in organisms
- D. the transfer of characteristics from parents to offspring

9. Which of the following is a sex-linked character?

- A. Sickle-cell anemia
- B. Tongue rolling

- C. Skin colour
- D. Colour blindness

10. Which of the following is the precise location of gene?

- A. Chromosome
- B. Nucleus
- C. Centriole
- D. Ribosome

11. All hereditary characters in a cell are passed on from parent cell to daughter cell through the process of _____.

- A. mitosis
- B. meiosis
- C. fertilization
- D. implantation

12. _____ refers to a pair of contrasting genes on the chromosomes for expressing a pair of contrasting characters.

- A. Hybrids
- B. Alleles
- C. Genotype
- D. Phenotype

13. Which of the following statements is not true about chromosomes?

- A. Each chromosome is made up of two chromatids.
- B. Body cells have diploid numbers of chromosomes.
- C. Homologous chromosomes do not occur in pairs naturally.
- D. Homologous chromosomes occur in pairs naturally.

14. The following are genetic disorders except _____.

- A. sickle cell anemia
- B. filariasis
- C. phenylketonuria
- D. hemophilia

15. A unit of heredity is called _____.

- A. character
- B. protein
- C. RNA
- D. gene

16. Which one of the following is not a type of RNA?

- A. rRNA
- B. mRNA
- C. tRNA
- D. nRNA

17. The somatic cells of man contains ____ number of chromosomes.

- A. 45
- B. 43
- C. 46
- D. 40

18. _____ is found in the nucleus of a living cell, carrying genetic information?

- A. Blood
- B. Sperm

- C. Ovary
- D. Chromosome

19. When true breeding Tall [T] plants were cross bred with true breeding short [t] plants the F1 generation was all tall. What is the genetic ratio of the F2 generation if members of F1 generation are allowed to self-pollinate

- A. 1 tall: 3 short
- B. 3 tall: 1 short
- C. 1 tall: 1 short
- D. 0 tall: 4 short

20. Sickle-cell anemia has persisted in the human race due to ____.

- A. lack of proper medical care for sickle cell patients
- B. carriers being more resistant to malaria
- C. carriers still intermarrying
- D. all of the above

21. A zygote with one X-chromosome will give rise to _____.

- A. a female with immature sex organ
- B. a female with very mature sex organ
- C. a female who is sterile but have normal sex organ
- D. a male who is sterile but have female body characteristics

22. _____ is a heritable disease characterized by an abnormal shape of the red blood cells.

- A. Anaerobiosis
- B. Haemophilia
- C. Sickle cell

D. Rheumatism

23. Sex cells are also called ____ cells

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

24. When gametes from pure breeding parents with contrasting features such as tallness and shortness are involved in monohybrid cross, the offspring in the first filial generation are usually _____.

- A. purebreed
- B. heterozygous dominant
- C. homozygous recessive
- D. mutant

26. _____ character expresses itself in the presence of a contrasting character.

- A. A hybrid
- B. An allele
- C. A recessive
- D. A dominant

27. A character which fails to express itself in the first filial generation but emerges in the second is _____.

- A. heterozygote
- B. homozygote
- C. dominant in the first generation
- D. recessive in the first generation

28. The study of heredity is centred on the ____ of a living cell.

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

29. In heredity, ____ controls growth and development in every living thing.

- A. RNA
- B. genes
- C. DNA
- D. cytoplasm

30. The four bases of the DNA chain are held together by ____ bonds.

- A. hydrogen
- B. oxygen
- C. chlorine
- D. helium

31. If a child can receive blood from all donors, he belongs to blood group ____.

- A. O
- B. A
- C. B
- D. AB

32. A gene which expresses itself only in the homozygous condition is ____.

- A. a mutant

- B. a dominant
- C. recessive
- D. lethal

33. ____ carry genetic information.

- A. Chromosomes
- B. Chromatids
- C. DNA
- D. Blood

34. Sex-linked characters are determined by genes located on the X-chromosomes; therefore a sex-linked character cannot be passed on directly from _____.

- A. father to son
- B. mother to daughter
- C. mother to son
- D. father to daughter

35. Which one of the following is not a purine?

- A. Adenine
- B. Guanine
- C. Cytosine
- D. None of the above

36. DNA is made up of two chains of small chemical units called ____.

- A. nucleus
- B. RNA
- C. nucleotides

D. none of the above

37. Haemophilia results from the mutation of the genes responsible for _____.

- A. sex
- B. skin colour
- C. blood clotting
- D. the formation of haemoglobin

38. _____ is a permanent change in DNA structure that may alter or destroy a given character or give rise to a new character.

- A. Genetic variation
- B. Genetic engineering
- C. Genetic mutation
- D. Genotype

39. A man with a normal haemoglobin (AA) marries a woman who has sickle-cell haemoglobin (SS), which of the following genotypes could be associated with the child's haemoglobin?

- A. AA
- B. SS
- C. AO
- D. AS

40. A sudden loss of black pigment from the skin of an African can be attributed to _____.

- A. a blending of black and white genes
- B. a recombination of genes

- C. loss of the epidermis
- D. mutation in the skin cells

41. The red blood cell is _____ in shape.

- A. star and biconcave
- B. spiral and convex
- C. round and biconcave
- D. oval and biconcave

42. If a dark skinned woman (Bb) marries an albino man (bb) and they have four children, how many of the children may be dark skinned?

- A. 3
- B. 2
- C. 1
- D. 0

43. Which of the following is an example of a monohybrid inheritance in man?

- A. Astigmatism
- B. Cretinism
- C. Hyperthyroidism
- D. Albinism

44. The crossing of completely unrelated strains in animals is called _____.

- A. outbreeding
- B. inbreeding
- C. cross-linking
- D. none of the above

45. During blood transfusion, agglutination may occur when _____.

- A. antibodies react with contrasting antibodies
- B. antibodies react with similar antigens
- C. white blood cells from two individuals meet
- D. Two different antibodies react with each other

46. Which of the following statements is not correct about sex-determination?

- A. Females alone determine the sex of a child.
- B. Males contribute an X or Y chromosome.
- C. Females contribute only the X chromosome.
- D. The sex of an individual is determined by males.

47. In which of the following is the knowledge of genetics not applicable?

- A. Development of high-yielding varieties of seeds.
- B. Preservation of seeds.
- C. Development of early maturing seeds.
- D. Development of more healthy varieties of seeds.

48. Which of the following is a disease caused by the destruction of abnormal shaped red blood cells?

- A. Rheumatism
- B. Malaria
- C. Anemia
- D. Haemophilia

49. The set of rules by which DNA and RNA molecules carry genetic information in living cells is known as _____.

- A. chromosome
- B. heredity
- C. genetic code
- D. replication

50. Which one of these is not a form of energy?

- A. Solar energy
- B. Sound energy
- C. Mechanical energy
- D. Conversion energy

51. The _____ offspring combines the best qualities of both parents.

- A. crossbred
- B. inbred
- C. selective bred
- D. pure bred

52. Males have _____ chromosomes while females have _____ chromosomes.

- A. XY, XX
- B. XX, XY
- C. XX, XX
- D. YY, XX

53. In an individual who is heterozygous for a particular character, the hereditary factor that is always expressed is described as _____.

- A. allele

- B. sickle-cell gene
- C. dominant gene
- D. chromosome

53. In an individual who is heterozygous for a particular character, the hereditary factor that is always expressed is described as ____.

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- B. sickle-cell gene
- C. dominant gene
- D. chromosome

55. When the cell is about to divide, the chromatids becomes ____ as strands.

- A. more visible
- B. more colourful
- C. thinner
- D. absent

56. Albinos lack the enzyme called ____ and so cannot secrete tyrosine for the production of melanin.

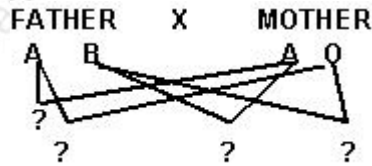
- A. cellulase
- B. tyrosinase
- C. trypase
- D. lactase

57. Which of the following statements best explains the meaning of homologous chromosomes?

- A. Product of division of chromosomes
- B. Two identical chromosomes each derived from one parent
- C. Chromosomes arranged on spindle fibre during cell division

D. All the chromosomes in a hybrid

58. From the cross showing the inheritance of blood groups, which of the following offspring does not belong to the father?



A. AA

B. AO

C. OB

D. OO

59. When two heterozygotes mate, the dominant trait will appear in ____.

A. the F1 generation only

B. the F2 generation only

C. both the F1 and F2 generations

D. neither F1 nor F2 generation

60. If R and r donate the genes for a character, the offspring of the cross between RR and Rr are ____.

A. RR, 2Rr, rr

B. 2RR, 2rr

C. 2RR, 2Rr

D. 4Rr

61. The structure of the DNA is ____ in shape.

A. circle

B. triangle

- C. square
- D. helical

62. Which of the following characters is not sex-linked?

- A. Albinism
- B. Skin Colour
- C. Haemophilia
- D. Colour blindness

63. Genetic counselling is important when a marriage is planned between a _____.

- A. Rh woman and Rh⁺ man
- B. Rh woman and Rh man
- C. Rh⁺ woman and Rh⁺ man
- D. Rh⁺ woman and Rh man

64. In Mendel's experiments, it was discovered that the F₁ generation of a monohybrid cross between a brown cock and a white hen were all brown because the gene for the _____.

- A. brown colour was recessive
- B. white colour was dominant
- C. brown colour was dominant
- D. white colour did not combine

65. In man, the ability to roll the tongue is a _____ variation.

- A. anatomical
- B. physiological
- C. structural
- D. morphological

66. Guanine always joins ____ base.

- A. thymine
- B. cytosine
- C. adenine
- D. thiamine

67. A pair of genes which control a trait is described as _____.

- A. dominant
- B. recessive
- C. allele
- D. variant

68. The haploid number of chromosomes in man is _____.

- A. 23
- B. 46
- C. 42
- D. 24

69. The most common means of transmitting the Acquired Immune Deficiency Syndrome (AIDS) is _____.

- A. through cuddling a naked baby
- B. through blood transfusion
- C. through sexual intercourse
- D. through the sharing of needles

70. In the structure of RNA, uracil pairs with ____.

- A. cytosine
- B. thymine
- C. guanine
- D. adenine

71. Genes are made up of a long chain of ____.

- A. RNA
- B. tRNA
- C. DNA
- D. all of the above

72. If a man of blood group AB marries a woman of blood group O, which one of the following will be in the first filial generation?

- A. AB
- B. OO
- C. AA
- D. AO

73. The F_1 of a monohybrid cross between a tall and dwarf plant was tall. In the F_2 generation, how many of 120 F_2 plants will be dwarf?

- A. 30
- B. 60
- C. 90
- D. 120

74. The carrier of the hereditary characters in plants and in animals is the _____.

- A. gene

- B. nucleus
- C. chromosome
- D. chloroplast

75. Heredity is the transmission of inherited characters from parent to offspring via _____.

- A. gene
- B. hybrid
- C. vigour
- D. gamete

TOPIC: EVOLUTION

DIRECTION: Choose the correct answer from the lettered options.

1. Long neck in giraffe is used to illustrate the theory of _____.
 - A. use and disuse
 - B. origin of species
 - C. origin of life
 - D. natural selection

2. Which of the following fields of study cannot yield strong evidence of evolution?
 - A. Fossil
 - B. Histology
 - C. Ecology
 - D. Genetics

3. Which one of the following is not a castes of the honey bee?
 - A. Queen
 - B. King
 - C. Drone
 - D. Workers

4. The drones in the colony of the honey bees are _____.
 - A. sterile females
 - B. reproductive female
 - C. males
 - D. completely sterile male

5. The following are structural adaptations of a bony fish to life in water except _____.

- A. a streamlined body shape
- B. overlapping scales
- C. gills
- D. a tail and tail fins

6. Which of the following has the most primitive respiratory system?

- A. Rat
- B. Fish
- C. Toad
- D. Grasshopper

7. When the original king and queen of termites die, they are replaced by ____.

- A. the king and queen of another colony
- B. One or more secondary reproductive from the same colony
- C. some adult workers, which are specially fed to breed
- D. some mature soldiers nurtured as secondary reproductive

8. Which one of the following is not a coelenterate?

- A. Hydra
- B. Tarantula
- C. Jelly fish
- D. Physalia

9. The following are adaptive properties of plants for the conservation of water during drought except _____.

- A. spines
- B. bright coloured flowers

- C. succulent stems
- D. deep roots

10. The pedipalp in spiders is used for _____.

- A. breathing
- B. growing
- C. feeling
- D. web spinning

11. Plants growing in arid land are called _____.

- A. xerophytes
- B. hydrophytes
- C. hygrophytes
- D. none of the above

12. _____ laid down the basis for genetic studies.

- A. Thomas Morgan
- B. Gregor Mendel
- C. Charles Darwin
- D. Robert Hooke

13. Which one of the following is not associated with the chemistry of photosynthesis?

- A. $4\text{H}_2\text{O} \rightarrow 4\text{H} + 4\text{OH}$
- B. $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 2\text{C}_2\text{H}_5\text{OH} + 2\text{CO}_2$
- C. $\text{CO}_2 + 4\text{H} \rightarrow \text{CH}_2\text{O} + \text{H}_2\text{O}$
- D. $4\text{OH} \rightarrow 2\text{H}_2\text{O} + \text{O}_2$

14. Examples of competitors in animals are _____ and _____.

- A. lizard, mouse
- B. snake, bird
- C. grasshopper, mouse
- D. cheetahs, lions

15. Which of the following corresponds with the idea that the environment determines which organism survives and reproduce?

- A. The theory of acquired characters
- B. Jean Lamarck's theory of use and disuse
- C. Survival of the fittest
- D. Fossil records

16. Carnassial teeth are characteristic of ____ mammals.

- A. omnivorous
- B. herbivorous
- C. carnivorous
- D. none of the above

17. Birds have feathers on their body that is used for _____.

- A. flight
- B. beautification of the bird
- C. regulation of body temperature
- D. reproduction and hatching of egg

18. Which of the following sets of organisms represents the correct trend from simple to complex structural organization?

1. Mollusca; 2. Platyhelminthes; 3. Nematode; 4. Protozoa.

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

19. The possession of bright colours by an insect functions as _____.

- A. a means to secure the opposite sex
- B. decoration
- C. pollinating agent
- D. a means to distract predators

20. In the illustration below, the hawk is _____.



- A. a scavenger
- B. a primary consumer
- C. a tertiary consumer
- D. an omnivore

21. Which of the following habitats cannot be used for the study of succession?

- A. A savanna grassland
- B. An abandoned farmland
- C. A pond
- D. A well cultivated land

22. Which one of the following plants store water in their stems?

- A. Cactus
- B. Bryophyllum
- C. Portulaca
- D. Casuarina

23. Insects show considerable power of water conservation due to the fact that ____.

- A. the chitinous cuticle is impregnated with tanned proteins
- B. nitrogenous waste is eliminated as urea
- C. chitin is impermeable to water
- D. the malpighian tubules are impermeable to water

24. Which of the following helps birds maintain their body temperature?

- A. Blood, which maintains constant temperature.
- B. Feathers, which cover the body.
- C. Skin, which conserves moisture.
- D. Veins, which transport fluid of constant temperature to all body tissues.

25. Which one of the following insects is not a social animal?

- A. Fly
- B. Termite
- C. Bee
- D. Ant

26. What ecological condition favours the breeding of black flies?

- A. Fresh water habitat
- B. Water in ponds and swamps
- C. Water in small containers

D. Fast flowing streams

The correct answer is option [B]

27. Which of the following fruits is a schizocarp?

- A. Groundnut
- B. Desmodium
- C. Crotalaria
- D. Cashew

28. The blind and sterile females are the ____ in the castes of termites.

- A. soldiers
- B. queen
- C. king
- D. workers

29. Which one of the following does not have hoof or horn?

- A. Porcupine
- B. Deer
- C. Goat
- D. Horse

30. The amount of water loss from a leaf can be detected using ____.

- A. red litmus paper
- B. pink cobalt chloride paper
- C. blue litmus paper
- D. blue cobalt chloride paper

31. _____ is the type of adaptation in which an organism possesses special structures which enhances its chances of surviving successfully in its environment.

- A. Behavioral adaptation
- B. Structural adaptation
- C. Evolutional adaptation
- D. Physical adaptation

32. The evidence for can be obtained from one of the following except _____.

- A. fossil
- B. anatomy
- C. history
- D. embryology

33. _____, a British biologist in 1859 propounded a theory of organic evolution.

- A. Charles Darwin
- B. Theodore Schwann
- C. Jean Baptist Lamarck
- D. Hugo de Vries

34. The stinging and biting mechanism of some animals are for _____.

- A. feeding
- B. defence
- C. movement
- D. all of the above

35. Animals aestivate when the environment in which they live becomes _____ and _____.

- A. hot and dry
- B. cold and wet
- C. warm and humid
- D. windy and snowy

36. One of the major criticisms against Mendelian laws is that they do not recognise that _____

- A. One trait is often controlled by many pairs of genes
- B. single factor inheritance is never a reality
- C. complete dominance is always possible
- D. incomplete dominance is not possible

37. The nature of the mouth parts of dragonfly is _____.

- A. probosis
- B. mandibulate
- C. rostrum
- D. cilliate

38. _____, _____ and _____ are adaptive features of plants to desert conditions.

- A. Thick barks, succulent stems and sunken stomata
- B. Thin barks, succulent stems and sunken stomata
- C. Thin barks, air floats on stems and sunken stomata
- D. Air spaces in tissues, adventitious roots and thick barks

39. Who formulated the theory of natural selection in evolution?

- A. Louis Pasteur
- B. Charles Darwin

- C. Jean Lamarck
- D. Mathias Schneider

40. Which one of the following plants do not possess succulent stem?

- A. Euphorbia
- B. Cactus
- C. Casuarina
- D. Baobab tree

41. Animals living in dry places develop ____ on their skin to prevent water loss from their body.

- A. feathers
- B. hairs
- C. scales
- D. pores

42. The feeding mechanism of an ant is ____.

- A. biting and sucking
- B. sucking
- C. biting and chewing
- D. squeezing and swallowing

43. The table is a punnett square for sex determination in man.

Which of the following determines a normal male offspring?

		EGG	
		X	X
SPERM	X	XX	XX
	Y	XY	XY

- A. X
- B. Y
- C. XX
- D. XY

44. Failure of species to adapt to any environment may lead to _____.

- A. domination
- B. competition
- C. stunted growth
- D. extinction

45. Insects have very hard chitinous externally located skeleton called _____.

- A. endoskeleton
- B. exoskeleton
- C. ectoskeleton
- D. all of the above

46. The type of vegetation of a particular habitat is affected by the following except _____.

- A. nature of soil particles
- B. amount of rainfall
- C. mineral content of the soil
- D. depth of the water table

47. _____ is a behavioural adaptation in which some animals spend hot weather in inactive condition.

- A. Aestivation
- B. Hibernation
- C. Nuptial flight
- D. Tunnelling

48. Which one of the following is a type of adaptation possessed by organisms?

- A. Counter shading
- B. Warning
- C. Mimicry
- D. All of the above

49. In the geologic time table, the Mesozoic era is the age of _____.

- A. mammals
- B. marine reptiles
- C. ancient life
- D. none of the above

50. The spines and scales of porcupine and scaly anteater are structures used for _____.

- A. excretion of waste matter
- B. defence against predators
- C. basking
- D. mating and reproduction

51. Which of the following is not a herbivore?

- A. Longhorn beetle

- B. Ant
- C. Honey bees
- D. Dragonfly

52. Which one of the following animals does not have scales?

- A. Lizards
- B. Snakes
- C. Tortoises
- D. Crocodiles

53. The gradual, cumulative, adaptive and heritable changes in an organism over a long period of time resulting in emergence of new species is known as _____.

- A. adaptation
- B. survival
- C. organic
- D. variation

54. The beak of the _____ is strong, short and conical.

- A. sunbird
- B. parrot
- C. hen
- D. weaver bird

55. A green snake in a green grass is able to escape unnoticed from predators because of its _____.

- A. disruptive colouration
- B. counter shading

- C. warm colouration
- D. cryptic colouration

57. According to Charles Darwin's theory of evolution, natural selection involves the survival of the _____.

- A. weakest
- B. most populous species
- C. youngest
- D. fittest

59. What is the function of the male adult honey bee?

- A. To clean the hive.
- B. To ventilate the hive.
- C. To mate with the queen.
- D. To care for the young.

60. The behavioural adaptation in which some mammals spend cold season in inactive condition is known as _____.

- A. burrowing
- B. aestivation
- C. hibernation
- D. all of the above

61. Charles Darwin's theory on is based on _____.

- A. adaptation
- B. genetic drift
- C. mandolin inheritance

D. natural inheritance

62. The wing of a bat and that of a bird, the flippers of a whale and the fins of a fish are examples of _____.

- A. adaptive radiation
- B. vestigial structures
- C. divergent
- D. convergent

63. The rate of is not affected by _____.

- A. embryology
- B. natural selection
- C. gene flow
- D. genetic drift

64. In ecology, the transect method can be used to estimate the _____.

- A. number of plants and animals in an area
- B. population of a particular plant species
- C. number and types of plants in an area
- D. heights of trees in a section of a forest

65. Hormones are _____.

- A. secreted into the blood through ducts
- B. secreted directly into the blood stream
- C. inactive chemical substances in the blood stream
- D. non-specific in their mode of action

66. Which of the following is one of the Lamarck theories?

- A. Some variations are more variable to existence in a given ecological environment than others.
- B. All living organisms are constantly involved in a struggle for existence.
- C. The size of a given population remains fairly constant.
- D. New species originate through the inheritance of acquired traits.

67. ____ are long preserved remains or imprints of organisms that once lived.

- A. Fossils
- B. Skeletons
- C. Bones
- D. None of the above

68. In contrast to the more recent fossil bearing rocks, the older fossil bearing rocks are more likely to contain _____.

- A. animal remains than plant remains
- B. invertebrates rather than vertebrates
- C. flowering plants rather than smaller vertebrates
- D. protozoans rather than fishes

69. Which of the following represents the evolutionary sequence in these plants? 1. Flowering plants; 2. Ferns; 3. Mosses; 4. Algae; 5. Conifers.

- A. 2 -> 1 -> 4 -> 3 -> 5
- B. 5 -> 4 -> 3 -> 2 -> 1
- C. 2 -> 4 -> 5 -> 1 -> 3
- D. 4 -> 3 -> 2 -> 5 -> 1

70. Which one of the following laws states that during the development of an individual, it passes through many embryonic stages that its ancestors underwent simply because the mechanism of development was inherited from common ancestor?

- A. cytology
- B. embryology
- C. fossilization
- D. none of the above

71. Fossil records found in sedimentary rocks offer some explanation for the theory of because ____.

- A. the deposits have remains of the organism's characteristic of when they were formed
- B. different strata have remains of organisms of the same kind
- C. only organisms with strong parts are fossilized
- D. animal and plant fossils found, still had some physical resemblance to the living organism

72. Which of the following is not an evidence supporting organic evolution?

- A. Comparative anatomy
- B. Vestigial organs
- C. Mutation
- D. Fossils

73. Homologous structures can be used to explain the evidence of ____.

- A. comparative anatomy
- B. fossils
- C. vestigial organs
- D. genetics and man

74. Darwin is considered the first scientist who correctly explained the theory of ____.

- A. special creation
- B. spontaneous generation
- C. use and disuse
- D. organic

75. The praying mantis feeds on ____.

- A. leaves
- B. fluids
- C. insects
- D. flowers

76. Which one of the following sets are the final products of aerobic respiration?

- A. Water, carbon dioxide and energy
- B. Water, carbon dioxide and pyruvic acid
- C. Glucose, energy and urea
- D. Carbon dioxide and energy

77. The scientific name for the "flame of the forest" plant is ____.

- A. Hibiscus esculentus
- B. Vernonia sp.
- C. Aloe sp.
- D. Delonix regia

78. _____ is the series of gradual and adaptive changes which living organisms had undergone in response to changes in their environment since the beginning of their lives.

- A. Evolution

- B. Development
- C. Growth
- D. Adaptation

79. In tapeworms, suckers on the scolex are used for _____.

- A. sucking the blood of the host
- B. holding fast to the host
- C. reproduction
- D. gaseous exchange

80. Which of the following is not one of Darwin's deductions concerning natural selection?

- A. Food and other needs are abundant.
- B. There is a fierce competition among offsprings.
- C. The weaker offsprings are eliminated.
- D. Nature selects those that will survive to reproduce their kind.

81. The phylum Arthropoda is full of members that _____ and _____ .

- A. bite and chew
- B. sting and bite
- C. sting and chew
- D. pierce and suck

82. Which of the following parts of the tongue is sensitive to sugar?

- A. Tip
- B. Back
- C. Right side

D. Left side

83. _____ postulated the concept of use and disuse of organs.

A. Charles Darwin

B. Jean-Baptiste Lamarck

C. Gregor Mendel

D. Alfred Russel Wallace

TOPIC: HORMONAL COORDINATION

DIRECTION: Choose the correct answer from the lettered options.

1. IAA is the most abundant natural auxin manufactured in plants and it stands for _____.

- A. indoleacetyl acid
- B. indoleacetate acid
- C. indoleacetic acid
- D. indoaldehyde acid

The correct answer is option [C].

2. Which of the following is a hormone secreted by the pituitary gland?

- A. Oxytocin
- B. Thyroxine
- C. Parathormone
- D. Thyroid

3. Increase in blood sugar level stimulates the production of _____.

- A. insulin
- B. oestrogen
- C. progesterone
- D. prolactin

4. Which of these is not a function of the liver?

- A. Storage of blood
- B. Secretion of hormone
- C. Detoxication
- D. Production of heat

5. What organ is located just below the diaphragm?

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

6. The ____ is the largest internal organ of a human.

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

7. The endocrine system acts _____.

- A. swiftly and slowly
- B. chemically and swiftly
- C. slowly and chemically
- D. internationally and chemically

8. The abscisic acid is a plant _____ produced in matured _____, _____ and _____.

- A. hormone, green leaves, fruits, root cap
- B. sap, green, leaves, roots
- C. secretion, leaves, barks, stem
- D. excretion, leaves, barks, fruits

9. Pituitary gland is also referred to as the _____ gland.

- A. thyroid
- B. master
- C. coordinate

D. effector

10. Endocrine hormone molecules are secreted directly into the _____.

- A. neuron
- B. exocrine gland
- C. blood stream
- D. neuron-reflex

11. Which of the following is not a role of auxins?

- A. Abscission
- B. Cell division
- C. Fruit development
- D. Leaf formation

12. Over secretion of insulin leads to _____ blood sugar level.

- A. an increase in
- B. a fall in
- C. an average
- D. a constant

13. The hormone that regulates the growth of the body is known as ____ hormone.

- A. adrenalin
- B. pitocin
- C. prolactin
- D. somatotropic

14. Hormones are _____.

- A. inorganic chemicals secreted by the pancreas, central to regulating carbohydrate and fat metabolism in the body
- B. chemical substances secreted by endocrine glands in response to various stimuli
- C. organic materials that aid digestion of food substances
- D. reproductive chemicals secreted to aid parturition

15. Which of the following is not a plant hormone?

- A. Cytokines
- B. Cytotoxins
- C. Auxins
- D. Absciscic acid

16. Contraction of the uterus muscles during child birth is a function of _____ hormone.

- A. oxytocin
- B. gonadotropic
- C. thyroxin
- D. adrenalin

17. Endocrine glands release their secretions directly into the _____.

- A. blood stream
- B. ducts
- C. heart
- D. intestines

18. Adrenaline gland is located at the _____.

- A. left part of the kidney
- B. top of the kidney

- C. right-side of the kidney
- D. middle of the brain

19. Gastrin is secreted in the _____.

- A. hand
- B. eye
- C. stomach
- D. brain

20. Testosterone and androsterone are hormones located in the _____.

- A. penis
- B. testes
- C. scrotum
- D. anus

21. Cytokinins and auxins act together to promote the replication of _____.

- A. RNA
- B. IAA
- C. DNA
- D. mRNA

22. _____ brings about ageing in leaves.

- A. Cytokinins
- B. Auxins
- C. Absciscic acid
- D. Gibberellins

23. Ethene gas is produced in _____, _____ and _____.

- A. the hands, legs, head
- B. blood, water, finger
- C. leaves, stems, young fruits
- D. stems, sticks, leaves

24. The testis is located in the _____.

- A. scrotum
- B. boxers
- C. prostate gland
- D. rectum

25. Hormones are substances that are _____ in nature.

- A. electrical
- B. chemical
- C. civil
- D. mechanical

26. How does the nervous system act?

- A. Swiftly, instant and electronically
- B. Slowly, instantly and electrically
- C. Swiftly, instantly and electrically
- D. Swiftly, instantaneous and electrifyingly

27. Excessive development of sexual organs and secondary sex characters in men is caused by excess _____.

- A. thyroxine
- B. hormone
- C. testosterone

D. blood

28. Over secretion of the pituitary growth hormone leads to ____.

A. gigantism

B. obesity

C. dwarfism

D. anorexia

29. Where is the pituitary gland located?

A. Abdomen

B. Head

C. Mid-brain

D. Kidney

30. Which of the following is a plant hormone?

A. ADH

B. Growth hormone

C. Ethene

D. Calcitonin

31. Hormones are produced by ____.

A. ductless glands

B. glands with ducts

C. all glands

D. ductal gland

32. _____ is one of the diseases of the kidney.

A. Malaria

- B. Fever
- C. Yellow fever
- D. Diuresis

33. Root growth in stem cuttings is promoted by hormones.

- A. True
- B. False

34. In plants, hormones are manufactured in the following except _____.

- A. apical meristems of roots and shoots
- B. young growing leaves
- C. developing seeds or fruits
- D. bright coloured flowers

35. Rapid stem elongation in dwarf plants is stimulated by _____.

- A. cytokinins
- B. gibberellins
- C. auxin
- D. thyroxin

36. Plants produce hormones only in the _____.

- A. parts exposed to sunlight
- B. parts in the soil
- C. growing parts
- D. recessive part

37. Gibberellins are produced in _____.

- A. young foliage leaves

- B. mature leaves
- C. fruits
- D. seedlings

38. An example of a synthetic auxin is _____.

- A. 2, 4,-D
- B. 2, 6,-D
- C. 2, D
- D. 2, DD

39. Hormones are _____.

- A. inorganic substances
- B. sensory receptors
- C. physical messengers
- D. organic substances

40. Exocrine glands release their chemicals into _____.

- A. vein
- B. duct
- C. blood streams
- D. arteries

41. Oestrogen is secreted in the _____.

- A. sperm
- B. ovum
- C. ovary
- D. fallopian tube

42. Together with the nervous system, the endocrine system forms a combined _____ system.

- A. neuro-endocrine
- B. neuro-exocrine
- C. neuro-crine
- D. nerve-end

43. The adrenal gland secretes _____ hormone.

- A. thyroxine
- B. oxytocin
- C. prolactin
- D. adrenaline

44. One of the effects of abscisic acid is that _____.

- A. it suppresses the growth of buds
- B. it increases the growth of buds
- C. it encloses the height of buds
- D. allows all kinds of growth

45. Adrenaline hormone is produced by the following stimulations except _____.

- A. fright
- B. anger
- C. stress
- D. laughter

46. Which of the following is produced during ovulation?

- I Progesterone
- II Testosterone
- III Adrenaline

- A. I and II only
- B. III only
- C. I only
- D. II and III only

47. What organ is responsible for the metabolism of food substances?

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

48. _____ is a growth inhibitor whose effects generally oppose those of auxins.

- A. Gibberellins
- B. Absciscic acid
- C. Cytokinins
- D. Hormone

49. _____ is not a plant hormone.

- A. Auxin
- B. Parathormone
- C. Gibberellins

D. Cytokinins

50. In animals, hormones are manufactured in the ____.

- A. endocrine glands
- B. blood stream
- C. gastrointestinal tract
- D. lungs

TOPIC: NERVOUS COORDINATION

DIRECTION: Choose the correct answer from the lettered options.

1. The part of the nervous system that interprets blinking of the eye is the _____.

- A. spinal cord
- B. cerebrum
- C. hind brain
- D. olfactory lobe

2. The brain is made up of _____ main parts.

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

3. From the following options, sensory receptors are often found in the _____ and _____.

- A. ear, eye
- B. bones, arteries
- C. blood, bones
- D. eye lashes, teeth

4. Which one of the following is not a reflex action?

- A. Coughing
- B. Sleeping
- C. Sneezing
- D. Blinking

5. The cerebrum and olfactory lobes are parts of the _____.

- A. forebrain
- B. hindbrain
- C. midbrain
- D. medulla

6. The complex network that coordinates the various activities of multicellular animals is the ____ system.

- A. respiratory
- B. skeletal
- C. muscular
- D. nervous

7. The hypothalamus functions in the regulation of all except _____

- A. water balance
- B. sleep
- C. blood pressure
- D. voluntary actions

8. Sensory receptors also acts as _____.

- A. information
- B. information collectors
- C. informal collections
- D. collectors

9. The complex network that coordinates the various activities of multicellular animals is the ____ system.

- A. respiratory
- B. skeletal
- C. muscular
- D. nervous

10. The brain and spinal cord make up the ____ nervous system.

- A. peripheral
- B. autonomic
- C. central
- D. somatic

11. Sensory receptors also acts as _____.

- A. information
- B. information collectors
- C. informal collections
- D. collectors

12. Axons are referred to as _____.

- A. nerve fibres
- B. muscle fibres
- C. skeletal cells
- D. hormones

13. The nervous system of vertebrates consist of the _____.
A. central nervous system (CNS) and peripheral nervous system (PNS)
B. center nervous system and upper nervous system
C. terrestrial nervous systems and aquatic nervous system
D. sensory nervous system and motor nervous system
14. The brain is made up of _____ main parts.
A. 4
B. 2
C. 1
D. 3
15. The basic structural unit of the nervous system is the _____ cell.
A. neutron
B. electron
C. nephron
D. nerve
16. A bundle of long nerve fibres is called _____.
A. fabric
B. fibrings
C. nerves
D. nervous
17. The spinal nerves and cranial nerves are part of the _____.
A. digestive system
B. central nervous system
C. peripheral nervous system

D. circulatory nervous system

18. The spaces between neurones through which impulses are sent by means of a chemical reaction are called ____.

- A. axons
- B. ganglia
- C. synapses
- D. dendrites

19. What are the different types of neurons?

- A. Senses, motor and associated neurons
- B. Sensory, association and motor neurons
- C. Association, sensed and motors neurons
- D. Motor, sensed and associates neurons

20. The two small structures placed anteriorly on the cerebrum are called ____.

- A. fibres
- B. olfactory lobes
- C. corpus callosum
- D. thalamus

21. An automatic response of the body to a stimulus is known as ____.

- A. a voluntary action
- B. an involuntary action
- C. an automatic action
- D. an accidental action

22. The meninges in the brain responsible for protection of the brain is known as _____.

- A. dura mater
- B. arachnoid mater
- C. pia mater
- D. none of the above

23. The cerebrum and olfactory lobes are parts of the _____.

- A. forebrain
- B. hindbrain
- C. midbrain
- D. medulla

24. Reading the verdict of a case by a judge or magistrate is an example of _____.

- A. a reflex action
- B. an instinct
- C. a conditioned reflex
- D. a voluntary action

25. In a mammal, stimulus is transferred from the receptor muscle to the central nervous system through the _____.

- A. motor neurons
- B. effector muscles
- C. dendrites
- D. sensory neurons

26. _____ is the largest part of the brain.

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

27. Nervous system passes messages mainly as _____ along nerves.

- A. electrical impulses
- B. manual impulses
- C. mechanical impulses
- D. blood impulses

28. _____ stimulates secretion from the salivary gland and the constriction of the iris.

- A. Somatic nervous system
- B. Parasympathetic nervous system
- C. Cranial nerves
- D. Spinal cord

29. The response to the source of the reflex action "salivation" when food is perceived is _____.

- A. eating the food
- B. staring at the food
- C. flow of saliva
- D. flow of salivate

30. The part of the nervous system that interprets blinking of the eye is the _____.

- A. spinal cord
- B. cerebrum

- C. hind brain
- D. olfactory lobe

31. The hypothalamus functions in the regulation of all except _____.

- A. water balance
- B. sleep
- C. blood pressure
- D. voluntary actions

32. In voluntary action, sensory nerves send impulses to the spinal cord and then to the _____.

- A. brain
- B. thalamus
- C. cranium
- D. pons varolli

33. The following make up the forebrain except _____.

- A. olfactory lobes
- B. cerebrum
- C. hypothalamus
- D. cerebellum

34. The brain and spinal cord are part of the _____.

- A. endocrine system
- B. circulatory system
- C. nervous system
- D. skeletal system

35. From the following options, sensory receptors are often found in the _____ and _____.

- A. ear, eye
- B. bones, arteries
- C. blood, bones
- D. eye lashes, teeth

36. The nervous system is divided into _____ parts.

- A. 3
- B. 4
- C. 2
- D. 6

37. The centre of learning and memory in the human brain is the _____.

- A. medulla oblongata
- B. cerebellum
- C. cerebrum
- D. olfactory lobe

38. The centre for sensation of pains, touch and anger is the _____.

- A. spinal cord
- B. thalamus
- C. grey matter
- D. cortex

39. _____ detects stimuli from the external and internal environment.

- A. Sensory givers

- B. Sensory banners
- C. Sensory receptors
- D. sensory organelles

40. The nervous system consists of _____ parts.

- A. 3
- B. 2
- C. 4
- D. 6

41. The stimulus receiver in the body is called the _____.

- A. sensory nerve
- B. motor nerve
- C. receptor organ
- D. spinal cord

42. What is coordination?

- A. It is the arrangement of cell, tissue, organ and system in the body.
- B. It is the process by which different parts of an organism work together for proper effectiveness.
- C. It is the aligning of various organs of the body, hence ensuring proper body functioning.
- D. It is the electrical collation of the nervous tissues of the body.

43. Voluntary actions are _____.

- A. reflex actions
- B. resident in the neck
- C. actions in the fore limbs

D. anticipated actions

44. The central nervous system consists of the _____ and _____.

- A. brain, spinal cord
- B. head, spinal cord
- C. arteries, brain
- D. sense organs, nerves

45. In a typical nerve cell, electrical activity generated is generated at the _____.

- A. myelin sheath
- B. dendrites
- C. axon
- D. node of Ranvier

46. This structure can be found in the _____.



- A. sympathetic and parasympathetic nervous systems
- B. peripheral and central nervous systems
- C. peripheral nervous system only
- D. central nervous system only

47. One of the functions of a neurone is _____.

- A. only receiving nerve impulses
- B. receiving and transmitting impulses
- C. giving out reflex action

D. the total actions in the body

48. What is a neurone?

A. It is the entire structure of the central nervous system responsible for the transmission of nerve impulses.

B. It is the organized part of the brain and spinal cord that is responsible for only receiving sensory information.

C. It is the basic unit of nervous system which is responsible for the transmission of impulses within the body.

D. It is the actual point of transmission of impulses within the body.

49. The central nervous system consists of the _____ and _____.

A. fore and hind

B. brain and spinal cord

C. sensory and motor

D. nerves and spinal cord

50. The _____ system passes messages as chemical substances in the blood.

A. nervous

B. digestive

C. circulatory

D. endocrine

51. The _____ is the centre for controlling body temperature in the brain.

A. cerebrum

B. cerebellum

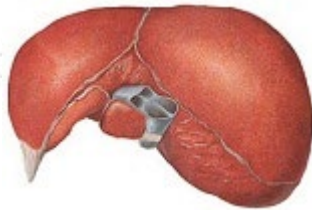
C. medulla

D. hypothalamus

TOPIC: REGULATIONS OF INTERNAL ENVIRONMENT (HOMEOSTASIS)

DIRECTION: Choose the correct answer from the lettered options.

1. Which of the following are components of glomerular filtrate?
 - A. All the components of blood except mineral salts
 - B. Blood cells, amino acid, salts and nitrogenous wastes
 - C. All the components of blood except plasma protein and cells
 - D. Plasma proteins, red and white blood cells
2. Which one of the following is an effect of hepatitis?
 - A. Yellowing of eyes and skin
 - B. Bulimia nervosa
 - C. Anaemia
 - D. Indigestion
3. What is the name of this organ?



- A. Kidney
 - B. Leg
 - C. Liver
 - D. Hand
4. The cup-shaped part of the Bowman's capsule contains the ____.

- A. nephridium
- B. glomerulus
- C. loop of henle
- D. nephron

5. _____ is a stimulus that cannot be perceived through the skin of mammals.

- A. Light
- B. Pressure
- C. Pain
- D. Heat

6. The solute concentration of blood rises when we _____.

- A. sweat profusely
- B. eat very little salt
- C. drink plenty of water
- D. shiver

7. Which of the following endocrine glands is a master gland?

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

8. _____ is the ability of an organism or cell to maintain internal equilibrium by adjusting its physiological processes.

- A. Hemoglobin
- B. Hydrogen
- C. Hormone

D. Homeostasis

9. Water balance in the body is one of the functions of the _____.

- A. liver
- B. brain
- C. hypothalamus
- D. kidney

10. Body fluids include _____, _____ and _____.

- A. blood, lymph, intercellular fluid
- B. body tissues, organs, blood
- C. fingers, water, sweat
- D. urine fluid, uric acid, sweat

11. Aldosterone is a hormone from the _____.

- A. liver
- B. adrenal cortex
- C. thyroid cortex
- D. lungs

12. _____ wastes are removed by the kidney.

- A. Oxygenous
- B. Nitrogenous
- C. Carbonated
- D. Phosphorous

13. Reduction of cholesterol intake is a remedy for _____.

- A. cancer

- B. gall stones
- C. kwashiorkor
- D. rickets

14. The control mechanism of keeping the osmotic pressure constant is known as a _____ feedback mechanism.

- A. negative
- B. positive
- C. kinetic
- D. normal

15. The skin is an organ for touch and _____.

- A. excretion
- B. respiration
- C. temperature regulation
- D. sight

16. The ability of organisms to maintain a constant internal environment is known as _____.

- A. diuresis
- B. endosmosis
- C. plasmolysis
- D. homeostasis

17. Blood vessels supply _____ to the tissues of the skin.

- A. blood
- B. water
- C. food and oxygen

D. vitamins

18. The removal of excess urine from the body through the kidney is called _____.

A. dialysis

B. diuresis

C. diabetes

D. oedema

19. The condition known as myxoedema is caused by the deficiency of _____.

A. adrenalin

B. vitamin A

C. insulin

D. thyroxine

20. The control mechanism used to detect and adjust changes in the internal environment of an organism is called _____ process.

A. homeostatic

B. hormonal

C. regulatory

D. internal

21. The _____ has the overall control over the homeostatic processes in the body.

A. spinal cord

B. brain

C. bones

D. muscles

22. The regulation of the internal environment of the body is termed ____.

- A. hemolysis
- B. homeostasis
- C. plasmolysis
- D. regulation

23. Keeping the osmotic pressure constant is an example of a _____ process.

- A. homeostatic
- B. internal
- C. hormonal
- D. regulatory

24. What makes up the internal environment of an organism?

- A. Urine, sweat and blood
- B. Body fluid
- C. Urine alone
- D. Water alone

25. Which of the following is not a function of the liver?

- A. Regulation of blood sugar
- B. Storage of bile
- C. Formation of bile
- D. Breakdown of excess amino acids

26. Hypothalamus is a small body just above the _____ gland.

- A. ADH

- B. pituitary
- C. endocrine
- D. thyroid

27. _____ animals maintain a constant body temperature.

- A. Endothermic
- B. Hexathermic
- C. All
- D. Exerthermic

28. The mammalian skin consists of _____ major layers.

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

29. The entire surface of the body is covered by_____.

- A. hairs
- B. pores
- C. flesh
- D. skin

30. How are kidney stones formed?

- A. They are formed when mineral salts in urine come out of solution as solid crystals.
- B. They are produced by the body when mineral acids in urine come out of solution as solid crystals.
- C. They are produced during body osmosis.
- D. They are required for proper kidney functioning.

31. The normal pH of blood is _____.

- A. 7.8
- B. 8.7
- C. -7.4
- D. 7.4

32. Which one of these is not a homeostatic mechanism?

- A. Osmoregulation
- B. Excretion
- C. Respiration
- D. Acid base balance

33. The ____ is the largest organ in the body.

- A. liver
- B. kidney
- C. skin
- D. sebaceous gland

34. ____ and ____ are produced at the hypothalamus.

- A. Anti-diuretic hormone and oxytocin
- B. ADI and OXI
- C. Anti-durex hormone and mammary hormone
- D. TSH and ADH

35. Over secretion of the growth hormone during childhood and adolescence causes a child to become _____.

- A. gigantic

- B. dwarfic
- C. energetic
- D. short

36. The increase in width of blood vessels in the mammal's skin at high temperature is known as _____.

- A. vasodilation
- B. sweating
- C. vasoconstriction
- D. shivering

38. Bile is produced in the _____.

- A. gall bladder
- B. pancreas
- C. spleen
- D. liver

39. The acronym ADH stands for _____.

- A. Anti-Dehydration Hormone
- B. Acute Dilation Hormone
- C. Anti-diuretic Hormone
- D. Another Dialated Hormone

40. ____ is the pigment that gives the skin its colour.

- A. Melanin
- B. Tannin
- C. Cyanin
- D. Haem

41. Diseases of the liver includes the following except _____.

- A. gallstones
- B. cancer of the liver
- C. nephritis
- D. hepatitis

42. What is a kidney stone?

- A. It is a hard substance formed in the liver; shaped as the kidney.
- B. It is a stony mass formed by mineral matter that form in the kidney.
- C. It is an organic material that grows in the kidney and intestines of adults.
- D. It is a natural stones-like structure; found within the Bowman's capsule; formed from inorganic matter.

43. _____ and _____ are part of exothermic animals.

- A. Ectotherm, poikilotherm
- B. Enthotherm, exotherm
- C. Mexotherm, poikilotherm
- D. All animals

44. The word "homeostasis" is a _____ word.

- A. German
- B. Japanese
- C. Greek
- D. Nigerian

45. The pigment in the malpighian layer responsible for skin colouration is known as _____.

- A. haemoglobin
- B. haemocyanin
- C. chlorocruorin
- D. melanin

46. The top most layer of the skin that consists of flat dead cells is known as _____.

- A. dermis
- B. cornified layer
- C. Malpighian layer
- D. epidermis

47. Drinking excess alcohol can cause _____.

- A. drunkenness
- B. diarrhea
- C. diuresis
- D. appendicitis

48. Detoxication in the liver involves _____.

- A. converting proteins to amino acids
- B. emulsification of fats and oils
- C. converting excess glucose into glycogen
- D. breakdown of worn-out red blood cells

49. Which of the following is an organ?

- A. Guard cell
- B. Liver

- C. Xylem bundle
- D. Blood

50. Maintaining a steady internal environment of an organism is known as _____.

- A. haemoglobin
- B. homeostasis
- C. homeostasis
- D. hormones

51. Which of the following group of organs are involved in homeostasis?

- A. Kidney, liver, skin and lungs
- B. Mouth, tongue, liver and lungs
- C. Hair, liver, skin and tongue
- D. Sweat, hair, mouth and lungs

52. The glomerular nephritis is a kidney condition that occurs commonly in ____ and _____.

- A. children and adolescents
- B. adults and the aged
- C. the aged and children
- D. all persons

53. The following are diseases of the kidney except _____.

- A. nephritis
- B. kidney stone
- C. diuresis
- D. hepatitis

54. Which of the following is excreted by the sweat glands?

I Sulphur

II Water

III Salts

IV Nitrogenous substances

A. I, II and III only

B. I, II, III and IV

C. II, III and IV only

D. III and IV only

55. What are the names of the different layers of the epidermis?

A. Cornified layer, granular layer and malpighian layer.

B. Conifer layer, granular layers and Malpighian layer.

C. Cornified layer, granular layer and Malpighian layer

D. Cornified layers, grand layer and malpighian layer

56. The glomerular filtrate contains the following substances except ____.

A. water

B. urea

C. blood corpuscles

D. glucose

57. The ____ secretes a hormone that induces the thyroid gland to produce more thyroxine.

A. islets of langerhans

B. adrenal gland

C. pituitary gland

D. parathyroid gland

58. The skin manufactures and stores vitamin _____.

- A. C
- B. A
- C. B
- D. D

59. How many lobes does the liver have?

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

60. Regulation of blood sugar level takes place in the _____.

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

TOPIC: REPRODUCTIVE SYSTEM IN MAMMALS

DIRECTION: Choose the correct answer from the lettered options.

1. All of the following takes place after fertilization except _____.
 - A. increase in ovary size
 - B. gradual colour changes
 - C. development of the fruit wall into pericarp
 - D. disintegration of fruit wall

2. In the human female, when two ova are released simultaneously and fertilized; _____.
 - A. identical twins are produced
 - B. fraternal twins are produced
 - C. siamese twins are produced
 - D. the children produced are genetically identical

3. A farmer left his land uncultivated for five years before returning to it. What farming method is he using?
 - A. Modern agriculture
 - B. Strip cropping
 - C. Bush fallow system
 - D. Crop rotation

4. The transfer of pollen grains from the anther to the stigma of flowers is known as _____.
 - A. pollination
 - B. fertilization
 - C. cross pollination
 - D. sexual reproduction

5. Which one of the following is not a characteristic of wind pollinated flowers?

- A. The flowers have no nectar.
- B. Pollen grains are usually tiny.
- C. Pollen grains are usually very rough.
- D. They are scentless.

6. If an insect cell is left in distilled water for two hours, it is likely to ____.

- A. lose some of its water to the surrounding water
- B. lose all of its water to the surrounding water
- C. reproduce by binary fission
- D. become more turgid

7. During seed development, the following changes take place in the ovule except that the ____.

- A. nucleus of the endospem develops
- B. guard cells degenerate
- C. micropyle expands
- D. integument becomes the testa

8. Which of these statements is not true of insects?

- A. They are anthropods.
- B. Their body is divided into three distinct regions of head, thorax and abdomen.
- C. Their thorax comprises three segments, only two of which bear a pair of appendages each.
- D. Respiration is by means of trachea.

9. Seeds fail to germinate when temperature becomes ____.

- A. too high or too low

- B. average or optimum
- C. optimum
- D. none of the above

10. A drupe consists of _____ layers.

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

11. Which of the following organisms lacks a reproductive organ?

- A. Chlamydomonas
- B. Toad
- C. Pride of Barbados
- D. Cockroach

12. Placentation of plants is best described as the _____.

- A. arrangement of ovules in the ovary
- B. arrangement of fruits on the branches
- C. development of ovules in the ovary
- D. formation of the pericarp from the ovary wall

13. A structure that develops from the ovary after fertilization is called _____.

- A. leaf
- B. stalk
- C. stem
- D. fruit

14. Dry dehiscent fruits are classified according to _____ type.

- A. fruit
- B. leaf
- C. pericarp
- D. flower

15. Dispersal by explosive mechanism is common in fruits such as _____.

- A. kolanut
- B. groundnut
- C. oil bean
- D. cassia

16. Fruits that are dispersed include all except _____.

- A. combretum
- B. bougainvillea
- C. tridax
- D. berries

17. Which of the following conditions are necessary for seeds to germinate?

- A. Uric acid, very cold temperature, nitrogen and fruits.
- B. Urine, hot temperature, oxygen and viable seeds.
- C. Water, suitable temperature, stones and viable seeds.
- D. Water, suitable temperature, oxygen and viable seeds.

18. Which one is not an example of a multiple fruit?

- A. Fig
- B. Bread fruit
- C. Apple

D. Pineapple

19. Which one of the following is not a dicotyledonous seed?

- A. Okra
- B. Pride of Barbados
- C. Balsam
- D. Flame of the forest

20. Which of the following statements is true about fertilization?

- A. One chromosome from the male joins another from the female.
- B. One gene from the male combines with another from the female.
- C. The male nucleus fuses with the female nucleus.
- D. One set of chromosomes combines with another set.

21. An example of a dry dehiscent fruit is _____.

- A. cola
- B. palmnut
- C. coconut
- D. groundnut

22. One main function of the amniotic fluid in pregnant women is to _____.

- A. protect the foetus against shock
- B. remove waste products from the foetus
- C. supply food and water to foetus
- D. carry oxygen to the foetus

23. In a drupe only the ____ and ____ are fleshy. . A. mesocarp and endocarp

- B. epicarp and mesocarp

- C. epicarp and endocarp
- D. none of the above

24. Which one is not an example of a cypsela?

- A. Emilia
- B. Tridax
- C. Obeche
- D. Eupatorium

25. The process of transferring pollen grains from the anthers of one flower to the stigma of the same flower is called _____.

- A. cross pollination
- B. self-fertilization
- C. self-pollination
- D. cross fertilization

26. In grasshopper/cockroach, digestion starts in the _____.

- A. oesophagus
- B. crop
- C. gizzard
- D. midgut

27. The splitting of the pericarp to liberate seeds is a characteristic of _____.

- A. dry indehiscent fruits
- B. dry dehiscent fruits
- C. succulent fruits
- D. none of the above

28. When is the best time to test for the presence of starch in a leaf?

- A. Before sunrise
- B. At sunrise
- C. At midday
- D. immediately after sunset

29. The ____ develops from the embryo and makes contact with the uterine wall.

- A. umbilical cord
- B. placenta
- C. allantois
- D. amnion

30. What is the effect of suboptimal temperature on the rate of germination?

- A. Increase
- B. No effect
- C. Retardation
- D. None of the above

31. Which of the following describes an example of fertilization in higher organisms?

- A. Fusion of sperm and egg nuclei.
- B. Ejaculating of sperm into a female body.
- C. Male gametes germinating in the pollen tube.
- D. A pollen grain landing on a sticky stigma.

32. Silk cotton tree is pollinated by ____.

- A. wind
- B. water
- C. birds

D. bats

33. All of the following are agents of pollination except_____.

A. wind

B. sunlight

C. animals

D. water

34. The jointed structure in insects that bears organs which are sensitive to touch, smell and vibration is the _____.

A. maxilla

B. labium

C. antenna

D. abdomen

35. Coconut seeds and water lilies are examples of seeds dispersed by _____.

A. wind

B. water

C. man

D. bird

36. Which of the following is not an adaptation of wind-dispersed fruits and seeds?

A. Small and light body

B. Spongy coats

C. Turfs of hairs

D. Wings on pericarp

37. In plants, ____ is a structure which develops from the ovule after fertilization.

- A. embryo
- B. seed
- C. cotyledon
- D. plumule

38. In mammalian males, the excretory and reproductive systems share the ____.

- A. ureter
- B. vas deferens
- C. urethra
- D. testes

39. One of the disadvantages of cross pollination is that ____.

- A. it leads to less production of seeds
- B. it produces unhealthy seeds and fruits
- C. pollen grains are likely to be wasted during the process
- D. the seeds produced gradually develops into weaker plants

40. An example of caryopsis is ____.

- A. guava
- B. maize grain
- C. coconut
- D. tomato

41. A ____ is a dry indehiscent fruit containing one seed and possessing a hairy pappus.

- A. nut
- B. drupe

- C. cypsela
- D. follicle

42. An achene with pericarp fused with the testa is called ____.

- A. nut
- B. cypsela
- C. samara
- D. caryopsis

43. Self-pollinated flowers are _____.

- A. bisexual
- B. unisexual
- C. dioecious
- D. none of the above

43. Fruits are classified into _____.

- A. simple, multiple and aggregate
- B. simple, multiply and aggregate
- C. multiply and aggregate
- D. simplify and multiply

44. The ____ is located in the mammalian abdominal cavity just below the diaphragm and lying on top of the stomach.

- A. bladder
- B. intestine
- C. liver
- D. pancreas

45. A flowering plant having both the male and female flowers on the same plant is said to be ____.

- A. regular
- B. monoecious
- C. irregular
- D. dioecious

46. Which of the following is not a characteristic of wind dispersed fruits and seeds?

- A. Light weight
- B. Wing
- C. Floss
- D. Sticky juice

47. Which one of the following has epigeal germination?

- A. Maize grain
- B. Cowpea seed
- C. African yam bean seed
- D. All of the above

48. In plant breeding, artificial pollination can result in ____.

- A. production of healthy crops
- B. improvement of crop variety
- C. susceptibility of crops to diseases
- D. delayed crop maturity

49. The germination in which the cotyledons are carried above the soil is known as ____ germination.

- A. epigeal

- B. hypogeal
- C. embryo
- D. none of the above

50. The process by which the embryo of a seed grows out of its testa and develops into a seedling is known as _____.

- A. fertilisation
- B. planting
- C. germination
- D. fusion

51. The process by which insects undergo conspicuous changes in form and appearance during development is known as _____.

- A. ecdysis
- B. metamorphosis
- C. aestivation
- D. migration

TOPIC: SENSE ORGANS

DIRECTION: Choose the correct answer from the lettered options.

1. The taste of delicious food is detected by the _____ of the tongue.

- A. mechanoreceptors
- B. photoreceptors
- C. chemoreceptors
- D. thermoreceptors

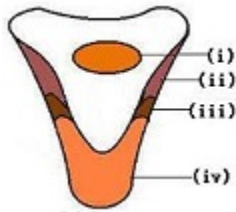
2. The eyeball is a _____ filled hollow structure.

- A. water
- B. fluid
- C. blood
- D. air

3. If you press a ruler against your skin, you feel pressure and the sense of _____.

- A. pain
- B. touch
- C. heat
- D. stings

4. From the diagram, what taste does the part labelled (ii) perceive?



- A. Sweet
- B. Sour
- C. Bitter
- D. Salt

5. The outer ear consists of the _____, _____ and _____.

- A. pinna, auditory meatus, tympanic membrane
- B. ear lobe, ear wax, ear liquid
- C. pinna, ear tube, wax
- D. organ of hearing, talking, thinking

6. The temperature receptors in the skin are of _____ types.

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

7. The function of the ear as a sense organ is hearing and _____.

- A. loudness
- B. listening
- C. balance
- D. feeling

8. Which one of the following is not a part of the mammalian ear?

- A. External ear
- B. Labyrinth
- C. Meatus
- D. Tympanum

9. The inability of some individuals to perceive the smell of some substances is an example of _____.

- A. physiological adaptation
- B. physiological variation
- C. morphological variation
- D. morphological adaptation

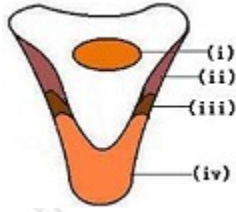
10. The eye defect caused by uneven curvature of the cornea or lens or both is known as _____.

- A. myopia
- B. presbyopia
- C. astigmatism
- D. hypermetropia

11. Which one of the following does not cause deafness?

- A. Wax
- B. Syphilis
- C. Head injuries
- D. Vaccinations

12. The diagram shown is that of the _____.



- A. teeth
- B. tongue
- C. ear
- D. nose

13. Which of the following best explains why it is difficult to see clearly in dim light?

- A. Initially the eye cannot operate when the light is dim.
- B. The choroid reflects all the light that enters the eye.
- C. Too little light reaches the retina and so the cones may not be stimulated enough.
- D. Dim light causes the pupil to close up so that not much light enters the eye.

14. The outward bending of parallel light rays from distant objects before falling on the eyeball is called _____.

- A. converging
- B. blurring
- C. diverging
- D. all of the above

15. Which one of the following is not a sense receptor?

- A. Touch receptor
- B. Pain receptor
- C. Heat receptor

D. Hugs receptor

16. From the diagram, what taste does the part labelled (i) perceive?

A. Sweet

B. Sour

C. Bitter

D. Salt

17. The nose senses smell by means of ____.

A. olfactory chemoreceptors

B. nociceptors

C. photoreceptors

D. thermoreceptors

18. Receptors that respond to pressure are located ____.

A. deep in the skin

B. on the skin surface

C. just immediately after the top layer of the skin

D. above the head

19. The sensory nerve endings of the nasal chamber join together to form olfactory nerve that goes to the olfactory lobe of the ____.

A. brain

B. nose

C. eye

D. ear

20. _____ separates the middle ear from the outer ear.

- A. Fenestra ovalis
- B. Eustachian
- C. Eardrum
- D. Stapes

21. Hypermetropia is an eye defect also known as _____.

- A. short-sightedness
- B. long-sightedness
- C. myopia
- D. presbyopia

22. Inside the membranous labyrinth is a fluid called _____.

- A. endolyte
- B. endolymph
- C. perilymph
- D. perilyte

23. Which one of the following is not a sense organ?

- A. Skin
- B. Nose
- C. Brain
- D. Tongue

24. If you prick your skin with a needle, what sensation will you feel?

- A. Pressure sensation
- B. Touch sensation
- C. Pain sensation
- D. Heat sensation

25. One function of the iris of the mammalian eye is _____.

- A. closing and opening of the eyes
- B. absorbing dangerous rays from sunlight
- C. regulating the amount of light entering the eye
- D. bringing light rays to focus on the retina

26. The sclera or sclerotic layer is also called the _____ of the eyes.

- A. white
- B. grey
- C. brown
- D. blue

27. The retina of the eye is a _____ that receives electromagnetic stimuli.

- A. thermoreceptors
- B. mechanoreceptor
- C. chemoreceptor
- D. photoreceptor

28. Long-sightedness can be corrected by using a _____ lens.

- A. convex
- B. concave
- C. glasses with uneven curvature
- D. any of the above

29. The part of the ear known as tympanum is also called the _____ ear.

- A. middle
- B. outer

- C. inner
- D. none of the above

30. _____ stimulates nerve endings in the tongue.

- A. Food substances
- B. Water
- C. Chemical substances
- D. Juicy substances

31. The outer ear is made up of the pinna and the _____.

- A. auditory nerve
- B. auditory canal
- C. muscles
- D. malleus

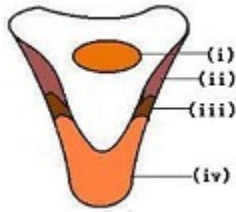
Look at the diagram carefully and answer the question.

32. What part of the body is this?



- A. The eye
- B. The nose
- C. The ear
- D. The fingers

33. From the diagram, what taste does the part labelled (iv) perceive?



- A. Sweet
- B. Sour
- C. Bitter
- D. Salt

34. Which one of the following receptors do we have in the skin?

I Heat receptor

II Cold receptor

III Warm receptors as temperature receptors

- A. I and III only
- B. II and III only
- C. I, II and III
- D. I and II only

35. Chemicals are stimuli of the nose and the _____.

- A. ear
- B. tongue
- C. eye
- D. skin

36. Man has both day and night visions because they have both rods and _____ in the eye.

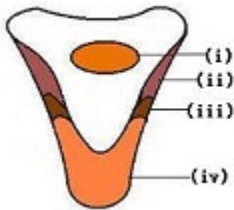
- A. optic nerves
- B. blind spot

- C. lens
- D. cones

37. The main sensory receptors of the body include _____, _____, _____ and _____.

- A. tasting receptors, sighting receptors, touching receptors, hearing receptors,
- B. mechanoreceptors, chemoreceptors, photoreceptors, thermoreceptors
- C. eye, nose, skin, ear
- D. None of the above

38. From the diagram, what taste does the part labelled (iii) perceive?



- A. Sweet
- B. Sour
- C. Bitter
- D. Salt

39. Thermoreceptors are found in the _____.

- A. tongue
- B. ear
- C. skin
- D. nose

40. In the skin, there are _____ sense receptors.

- A. 3
- B. 4

- C. 6
- D. 5

41. Pepper irritates the whole tongue and causes a burning sensation because it contains ____.

- A. taste
- B. flavour
- C. chemicals
- D. none of the above

42. The mammalian ear consists of ____ parts.

- A. 2
- B. 3
- C. 4
- D. 6

43. The stimulus of the sense organ "eye" is ____.

- A. shadow
- B. darkness
- C. light
- D. brightness

44. The layer of light-sensitive cells in the human eye is called the ____.

- A. cornea
- B. sclerotic layer
- C. retina
- D. conjunctiva

45. Ear stones are known as _____.

- A. otoliths
- B. corti
- C. sacculus
- D. coiled cochlea

46. For clear vision, the vitamins that could be taken is _____.

- A. vitamin C
- B. vitamin D
- C. vitamin E
- D. vitamin A

47. Taste bud opens to the surface of the tongue by _____.

- A. air
- B. saliva
- C. pores
- D. inlets

48. A taste bud has a _____ shape.

- A. curve
- B. round
- C. oval
- D. flask

49. Rods are sensitive to dim light and _____.

- A. bright coloured vision
- B. dark coloured vision
- C. colourless vision
- D. colourful vision

50. Which of the following taste receptors is not correctly matched with the taste it perceives?

- A. Tip-sweet
- B. Back-bitter
- C. Back-sour
- D. Side-sour

51. The three bones of the middle ear are called ear _____.

- A. bones
- B. windows
- C. skeleton
- D. ossicles

52. Within the cavity of the middle ear is a chain of three tiny bones called _____, _____ and _____.

- A. malleus, incus, stapes
- B. pharynx, hammer, anvilis
- C. incus, stirrups, hammering
- D. stapes, stirring, anvil

53. In the eye, the cornea is a continuation of the _____.

- A. blind spot
- B. conjunctiva
- C. sclera
- D. retina

54. The amount of light rays entering the eye is regulated by the _____.

- A. lens
- B. retina
- C. pupil
- D. iris

55. Human beings have _____ major sense organs.

- A. 4
- B. 6
- C. 5
- D. 3

TOPIC: VARIATION IN POPULATION

DIRECTION: Choose the correct answer from the lettered options.

1. Termites are called social insects because _____.
 - A. the nests are built by the nasute soldiers
 - B. they live together in communities
 - C. the queen allocates duties to the workers
 - D. the king and queen mate

2. Blood groups and tongue rolling are examples of _____.
 - A. continuous variation
 - B. discontinuous variation
 - C. variation due to environment
 - D. adaptive variation

3. Which of the following is an example of continuous variation?
 - A. Human blood groups
 - B. Sex differences in humans
 - C. Haemoglobin types
 - D. Height in humans

4. The major types of man's fingerprints do not include _____.
 - A. arch
 - B. whorl
 - C. simple
 - D. loop

5. An example of morphological variation is _____.

- A. blood group
- B. height
- C. ability to roll the tongue
- D. behavioural pattern

6. Which of the following human characteristics are discontinuous variations?

- I. Complexion
- II. Height
- III. Blood Rhesus factor
- IV. Ability to roll the tongue

- A. I & III
- B. II & III
- C. II & IV
- D. III & IV

7. One application of variation is in ____.

- A. determining the size and weight of individuals
- B. determining paternity
- C. conservation of wildlife
- D. controlling of disease vectors

8. Which of the following scientists discovered the Rhesus factor in human blood?

- A. Hooke and Lavine
- B. Darwin and Landsteiner
- C. Landsteiner and Wiener
- D. Hooke and Darwin

9. People without antigens on their red blood cells belong to blood group ____.

- A. A
- B. AS
- C. BB
- D. O

10. Which set of characters can be expressed phenotypically?

- I. Complexion
- II. Height
- III. Blood Rhesus factor
- IV. Colour blindness

- A. I & II
- B. I, II & IV
- C. I, III & IV
- D. I, II & III

11. _____ is an application of physiological variation.

- A. Finger print pattern
- B. Hair colour
- C. Height measurement
- D. Detection of paternity

12. Which of the following variations is applicable to a weight lifter?

- A. Absolute variation
- B. Discontinuous variation
- C. Hereditary variation
- D. Acquired variation

13. Which of the following is not a finger print classification?

- A. Arch
- B. Loop
- C. Whorl
- D. Tented arc

14. In sex determination, the XY chromosome comes from the ____.

- A. female
- B. male
- C. both parents
- D. male child

15. Morphological variation can clearly be seen in _____.

- A. weight
- B. skin colour in man
- C. height
- D. all of the above

16. Which of these structural features is adapted for only water conservation?

- A. Succulent stems
- B. Scales in animals
- C. Spines in plants
- D. Feathers in birds

17. What are the applications of variations?

- A. Blood transfusion
- B. Crime detection
- C. Determination of paternity

D. All of the above

18. When oil is poured into the breeding site of mosquitoes, it ____.

- A. deprives the larvae of water
- B. kills the adults
- C. suffocates the pupae
- D. slows down egg development

19. Variation may be grouped into ____ types.

- A. 2
- B. 4
- C. 5
- D. 11

20. Which of the following is not a continuous variation?

- A. Heights of plants
- B. Weight
- C. Ability to roll tongue
- D. Foot length

21. Which of the following is not a continuous variation?

- A. Colour of skin
- B. Size of the individual
- C. Ability to roll the tongue
- D. Height of the person

22. The two types of variations are ____ and ____ variation.

- A. chemical, physiological

- B. morphological, physiological
- C. morphological, physical
- D. anatomical, biological

23. Group instinct or social behaviour is not displayed in _____.

- A. soldier ants
- B. bees
- C. chickens
- D. weaver birds

24. A food chain always begins with a _____.

- A. decomposer
- B. saprophyte
- C. carnivores
- D. producer

25. A feature of the caste system of bees and termites is that _____.

- A. the workers also perform reproductive functions
- B. the drones are always bigger than the queen
- C. the workers perform housekeeping duties
- D. the queen dies immediately after the first sting

26. A permanent change in gene is called _____.

- A. mutation
- B. gene drift
- C. X-factor
- D. mutant X

27. Two factors that can cause variation are _____.

- A. heredity factors and anti-heredity factors
- B. genetic differences and influence from the environment
- C. blood group differences and polymorphic changes
- D. inter-ethnic differences and various individual experiences

28. An Amoeba and an unlaidd chicken egg are _____.

- A. animal tissues
- B. organelles
- C. single cells
- D. organisms

29. The division of labour in social insects is an example of ____.

- A. structural adaptation
- B. physiological adaptation
- C. commensalism
- D. behavioural adaptation

30. Variation between individuals are of _____ kinds.

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

31. Two pairs of genes, ABAB for the black race and abab for the white race when crossed will give a hybrid of _____.

- A. ABab
- B. AaBb

C. BbAa

D. AbaB

32. What is the significance of the bee dance to other bees?

A. Warning signal

B. Presence of food

C. Mating signal by the male

D. Scaring the enemies away

33. The boomerang shaped beaks of flamingoes have slits adapted for _____.

A. scooping mud and sieving it

B. picking seeds and worms

C. grasping slippery water animals

D. sucking nectar from flowers

34. A person's finger print when taken by the police is stored in a _____.

A. finger bank

B. storage bank

C. prints bank

D. memory bank

35. Which one of the following features is used in crime detection?

A. Blood group

B. Skin colour

C. Finger print

D. Genotype

36. Which one of the following is not a type of blood group?

- A. A
- B. B
- C. C
- D. O

37. If a cross is made between a pure-breeding red flowered plant and a pure-breeding white flowered plant where R is dominant for red flower and r is recessive for white, the most likely result of F₁ generation will be?

- A. 75% red flowers and 25% white flowers
- B. All red flowers
- C. 75% white flowers and 25% red flowers
- D. 50% red flowers and 50% white flowers

38. A person's ability to taste phenylthiocarbamide as bitter or tasteless is an example of _____ variation.

- A. continuous
- B. morphological
- C. irregular
- D. discontinuous

39. Human finger print is a _____ trait.

- A. phenotypic
- B. genotypic
- C. cycloptic
- D. none of the above

40. Which of these is not a hereditary variation?

- A. Infant paralysis

- B. Blood group
- C. Sickle cell
- D. Shape of face and nose

41. Features that show variations are often a blend of inherited and acquired characteristics.

- A. True
- B. False

42. Variations cannot be applied to ____.

- A. crime detection
- B. blood group
- C. identity marks between organisms
- D. diseases of organisms

43. Which of the following options make up the bee caste?

- A. Soldiers and queen
- B. Drones, soldiers and workers
- C. Queen, soldiers and workers
- D. Drones, queen and workers

44. A variation where there are sharp differences between the various forms of a given feature is called ____.

- A. continuous variation
- B. discontinuous variation
- C. stable variation
- D. unstable variation

45. During blood transfusion, agglutination could be prevented if a patient having blood group O is given blood from group _____.

- A. AB
- B. A
- C. O
- D. B

46. Variations that determines the physical appearance of a person is known as _____ variation.

- A. physiological
- B. discontinuous
- C. morphological
- D. none of the above

47. Which one of the following blood groups is a general donor?

- A. B
- B. O
- C. AB
- D. B+

48. Which of the following is an example of discontinuous variation?

- A. The height of a pear plant
- B. Sex of an offspring
- C. The colour of a pear plant
- D. The adult body weight

49. Antigen A in the red blood cell has _____ antibody in plasma.

- A. B

- B. A
- C. A + B
- D. O

50. The type of variation in which a given feature shows gradual transition between two extreme forms is called _____ variation.

- A. discontinuous
- B. formal
- C. continuous
- D. different

51. An individual with blood group AB can receive blood from those in blood group(s) _____.

- A. AB only
- B. A and B only
- C. B only
- D. A, B, AB and O

52. Agglutination occurs in blood transfusion when the _____.

- A. antigen and antibody from the donor and recipient reacts
- B. same antibodies from donor and recipient fuse together to form a lump
- C. donor and recipient belong to different races
- D. recipient is not a universal recipient but a universal donor

53. What is variation in population?

- A. Individual differences within a species.
- B. Heridity within a lineage.
- C. Various growth levels.

D. Inheritance of special characteristics.

54. Even though some flowering plants contain accessory pigments, which give them colours, they still contain the pigment _____.

- A. melanin
- B. chlorophyll
- C. xanthophyll
- D. carotene

ANSWERS

TOPIC: BIOLOGY OF HEREDITY (GENETICS)

DIRECTION: Choose the correct answer from the lettered options.

1. Albinism is as a result of the absence of ____ pigment in the malpighian layer of the skin.

- A. keratin
- B. melanin
- C. tyrosine
- D. nicotine

The correct answer is option [B].

2. Human height is an example of a feature which depends on both ____ and ____.

- A. genotype
- B. genetic and environmental factors
- C. mother's genotype and environmental factors
- D. phenotype and environmental factors

The correct answer is option [B]

3. The sugar in RNA contains ____.

- A. acids
- B. hydrogen
- C. oxygen
- D. all of the above

The correct answer is option [C].

4. _____ is a biological factor unique to each individual.

- A. DNA
- B. The eye colour

- C. The blood group
- D. Genetics

The correct answer is option [A]

5. Which of the following traits may not be important in marriage counselling?

- A. Sex-determination
- B. Sickle-cell anemia
- C. Rhesus factor
- D. Colour of skin

The correct answer is option [D]

6. If a baby is a female, her mother's ovum must have been fertilized by a sperm carrying the _____ chromosome.

- A. X
- B. XY
- C. XX
- D. Y

The correct answer is option [A]

Generally, in males, sex chromosomes consist of an X member and a Y member; in females, they consist of two X chromosomes. Thus a female baby would get an X chromosome from each parent.

7. Which of these statements is true about the human ABO blood grouping system?

- A. Blood type B is recessive.
- B. Blood type O is dominant over type B
- C. Blood type O is co-dominant with type A
- D. Blood type O has antibodies A and B.

The correct answer is option [D]

8. Heredity can be defined as _____.

- A. the non-resemblance of closely related organisms
- B. the total absence of parental traits in offspring
- C. the absence of variation in organisms
- D. the transfer of characteristics from parents to offspring

The correct answer is option [D]

9. Which of the following is a sex-linked character?

- A. Sickle-cell anemia
- B. Tongue rolling
- C. Skin colour
- D. Colour blindness

The correct answer is option [D]

10. Which of the following is the precise location of gene?

- A. Chromosome
- B. Nucleus
- C. Centriole
- D. Ribosome

The correct answer is option [A]

11. All hereditary characters in a cell are passed on from parent cell to daughter cell through the process of _____.

- A. mitosis
- B. meiosis
- C. fertilization
- D. implantation

The correct answer is option [A]

12. _____ refers to a pair of contrasting genes on the chromosomes for expressing a pair of contrasting characters.

- A. Hybrids
- B. Alleles
- C. Genotype
- D. Phenotype

The correct answer is option [B].

13. Which of the following statements is not true about chromosomes?

- A. Each chromosome is made up of two chromatids.
- B. Body cells have diploid numbers of chromosomes.
- C. Homologous chromosomes do not occur in pairs naturally.
- D. Homologous chromosomes occur in pairs naturally.

The correct answer is option [C]

14. The following are genetic disorders except _____.

- A. sickle cell anemia
- B. filariasis
- C. phenylketonuria
- D. hemophilia

The correct answer is option [B]

15. A unit of heredity is called ____.

- A. character
- B. protein
- C. RNA
- D. gene

The correct answer is option [D].

16. Which one of the following is not a type of RNA?

- A. rRNA
- B. mRNA
- C. tRNA
- D. nRNA

The correct answer is option [A].

17. The somatic cells of man contains ____ number of chromosomes.

- A. 45
- B. 43
- C. 46
- D. 40

The correct answer is option [C].

18. _____ is found in the nucleus of a living cell, carrying genetic information?

- A. Blood
- B. Sperm
- C. Ovary
- D. Chromosome

The correct answer is option [D].

19. When true breeding Tall [T] plants were cross bred with true breeding short [t] plants the F1 generation was all tall. What is the genetic ratio of the F2 generation if members of F1 generation are allowed to self-pollinate

- A. 1 tall: 3 short
- B. 3 tall: 1 short
- C. 1 tall: 1 short
- D. 0 tall: 4 short

The correct answer is option [B]

20. Sickle-cell anemia has persisted in the human race due to ____.

- A. lack of proper medical care for sickle cell patients
- B. carriers being more resistant to malaria
- C. carriers still intermarrying
- D. all of the above

The correct answer is option [C]

If a couple with the sickle-cell trait has a child, there is a one in four chance that the child will have sickle cell anaemia.

21. A zygote with one X-chromosome will give rise to _____.

- A. a female with immature sex organ
- B. a female with very mature sex organ

- C. a female who is sterile but have normal sex organ
- D. a male who is sterile but have female body characteristics

The correct answer is option [A]

22. _____ is a heritable disease characterized by an abnormal shape of the red blood cells.

- A. Anaerobiosis
- B. Haemophilia
- C. Sickle cell
- D. Rheumatism

The correct answer is option [C].

23. Sex cells are also called ____ cells

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

The correct answer is option [B].

24. When gametes from pure breeding parents with contrasting features such as tallness and shortness are involved in monohybrid cross, the offspring in the first filial generation are usually _____.

- A. purebreed
- B. heterozygous dominant
- C. homozygous recessive
- D. mutant

The correct answer is option [B]

In a monohybrid cross, only the alleles of one specific character are involved; thus, the dominant form of the character masks the recessive form of the first filial generation.

26. _____ character expresses itself in the presence of a contrasting character.

- A. A hybrid
- B. An allele
- C. A recessive
- D. A dominant

The correct answer is option [D]

27. A character which fails to express itself in the first filial generation but emerges in the second is _____.s

- A. heterozygote
- B. homozygote
- C. dominant in the first generation
- D. recessive in the first generation

The correct answer is option [D]

28. The study of heredity is centred on the ____ of a living cell.

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

The correct answer is option [B].

29. In heredity, _____ controls growth and development in every living thing.

- A. RNA
- B. genes

- C. DNA
- D. cytoplasm

The correct answer is option [C].

30. The four bases of the DNA chain are held together by ___ bonds.

- A. hydrogen
- B. oxygen
- C. chlorine
- D. helium

The correct answer is option [A].

31. If a child can receive blood from all donors, he belongs to blood group _____.

- A. O
- B. A
- C. B
- D. AB

The correct answer is option [D] The child has both antigen A and antigen B.

32. A gene which expresses itself only in the homozygous condition is _____.

- A. a mutant
- B. a dominant
- C. recessive
- D. lethal

The correct answer is option [C]

33. _____ carry genetic information.

- A. Chromosomes
- B. Chromatids

- C. DNA
- D. Blood

The correct answer is option [C].

34. Sex-linked characters are determined by genes located on the X-chromosomes; therefore a sex-linked character cannot be passed on directly from _____.

- A. father to son
- B. mother to daughter
- C. mother to son
- D. father to daughter

The correct answer is option [A]

Females have two copies of X-chromosomes while males have one X-chromosome and one Y-chromosome; thus a son always has the father's Y-chromosome.

35. Which one of the following is not a purine?

- A. Adenine
- B. Guanine
- C. Cytosine
- D. None of the above

The correct answer is option [C].

Cytosine is a pyrimidine.

36. DNA is made up of two chains of small chemical units called _____.

- A. nucleus
- B. RNA
- C. nucleotides
- D. none of the above

The correct answer is option [C].

37. Haemophilia results from the mutation of the genes responsible for _____.

- A. sex
- B. skin colour
- C. blood clotting
- D. the formation of haemoglobin

The correct answer is option [C]

Haemophilia is a recessive disorder in which the afflicted person is unable to clot blood properly leading to profuse bleeding even from small cuts.

38. _____ is a permanent change in DNA structure that may alter or destroy a given character or give rise to a new character.

- A. Genetic variation
- B. Genetic engineering
- C. Genetic mutation
- D. Genotype

The correct answer is option [C].

39. A man with a normal haemoglobin (AA) marries a woman who has sickle-cell haemoglobin (SS), which of the following genotypes could be associated with the child's haemoglobin?

- A. AA
- B. SS
- C. AO
- D. AS

The correct answer is option [D]

40. A sudden loss of black pigment from the skin of an African can be attributed to _____.

- A. a blending of black and white genes
- B. a recombination of genes
- C. loss of the epidermis
- D. mutation in the skin cells

The correct answer is option [D]

41. The red blood cell is _____ in shape.

- A. star and biconcave
- B. spiral and convex
- C. round and biconcave
- D. oval and biconcave

The correct answer is option [C].

42. If a dark skinned woman (Bb) marries an albino man (bb) and they have four children, how many of the children may be dark skinned?

- A. 3
- B. 2
- C. 1
- D. 0

The correct answer is option [B]

43. Which of the following is an example of a monohybrid inheritance in man?

- A. Astigmatism
- B. Cretinism
- C. Hyperthyroidism
- D. Albinism

The correct answer is option [D]

Monohybrid inheritance involves only the alleles of one specific character. In Human beings, albinism is managed with a single recessive gene, c, as well as normal skin tones through the dominant allele C; thus cc = albino and CC or Cc = normal.

44. The crossing of completely unrelated strains in animals is called _____.

- A. outbreeding
- B. inbreeding
- C. cross-linking
- D. none of the above

The correct answer is option [A].

45. During blood transfusion, agglutination may occur when _____.

- A. antibodies react with contrasting antibodies
- B. antibodies react with similar antigens
- C. white blood cells from two individuals meet
- D. Two different antibodies react with each other

The correct answer is option [B]

46. Which of the following statements is not correct about sex-determination?

- A. Females alone determine the sex of a child.
- B. Males contribute an X or Y chromosome.
- C. Females contribute only the X chromosome.
- D. The sex of an individual is determined by males.

The correct answer is option [A]

47. In which of the following is the knowledge of genetics not applicable?

- A. Development of high-yielding varieties of seeds.

- B. Preservation of seeds.
- C. Development of early maturing seeds.
- D. Development of more healthy varieties of seeds.

The correct answer is option [B]

48. Which of the following is a disease caused by the destruction of abnormal shaped red blood cells?

- A. Rheumatism
- B. Malaria
- C. Anemia
- D. Haemophilia

The correct answer is option [C].

49. The set of rules by which DNA and RNA molecules carry genetic information in living cells is known as _____.

- A. chromosome
- B. heredity
- C. genetic code
- D. replication

The correct answer is option [C].

50. Which one of these is not a form of energy?

- A. Solar energy
- B. Sound energy
- C. Mechanical energy
- D. Conversion energy

The correct answer is option [D]

51. The _____ offspring combines the best qualities of both parents.

- A. crossbred
- B. inbred
- C. selective bred
- D. pure bred

The correct answer is option [A]

Cross breeding produces improvements in the offspring due to a large number of fresh genetic combinations coming into existence.

52. Males have _____ chromosomes while females have _____ chromosomes.

- A. XY, XX
- B. XX, XY
- C. XX, XX
- D. YY, XX

The correct answer is option [A].

53. In an individual who is heterozygous for a particular character, the hereditary factor that is always expressed is described as _____.

- A. allele
- B. sickle-cell gene
- C. dominant gene
- D. chromosome

The correct answer is option [C]

53. In an individual who is heterozygous for a particular character, the hereditary factor that is always expressed is described as _____.

- A. allele
- B. sickle-cell gene
- C. dominant gene

D. chromosome

The correct answer is option [C]

55. When the cell is about to divide, the chromatids becomes ____ as strands.

- A. more visible
- B. more colourful
- C. thinner
- D. absent

The correct answer is option [A].

56. Albinos lack the enzyme called ____ and so cannot secrete tyrosine for the production of melanin.

- A. cellulase
- B. tyrosinase
- C. trypase
- D. lactase

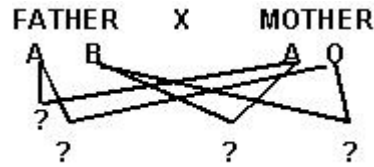
The correct answer is option [B].

57. Which of the following statements best explains the meaning of homologous chromosomes?

- A. Product of division of chromosomes
- B. Two identical chromosomes each derived from one parent
- C. Chromosomes arranged on spindle fibre during cell division
- D. All the chromosomes in a hybrid

The correct answer is option [B]

58. From the cross showing the inheritance of blood groups, which of the following offspring does not belong to the father?



- A. AA
- B. AO
- C. OB
- D. OO

The correct answer is option [D]

59. When two heterozygotes mate, the dominant trait will appear in ____.

- A. the F1 generation only
- B. the F2 generation only
- C. both the F1 and F2 generations
- D. neither F1 nor F2 generation

The correct answer is option [C]

60. If R and r donate the genes for a character, the offspring of the cross between RR and Rr are ____.

- A. RR, 2Rr, rr
- B. 2RR, 2rr
- C. 2RR, 2Rr
- D. 4Rr

The correct answer is option [C]

61. The structure of the DNA is ____ in shape.

- A. circle
- B. triangle
- C. square

D. helical

The correct answer is option [D].

62. Which of the following characters is not sex-linked?

A. Albinism

B. Skin Colour

C. Haemophilia

D. Colour blindness

The correct answer is option [B]

63. Genetic counselling is important when a marriage is planned between a _____.

A. Rh woman and Rh⁺ man

B. Rh woman and Rh man

C. Rh⁺ woman and Rh⁺ man

D. Rh⁺ woman and Rh man

The correct answer is option [A]

In this case, the woman has a high probability of having a Rh⁺ positive child; which raises the risk of agglutination.

64. In Mendel's experiments, it was discovered that the F₁ generation of a monohybrid cross between a brown cock and a white hen were all brown because the gene for the _____.

A. brown colour was recessive

B. white colour was dominant

C. brown colour was dominant

D. white colour did not combine

The correct answer is option [C]

In a monohybrid cross, the dominant form of the character masks the recessive form in the F₁ generation.

65. In man, the ability to roll the tongue is a ____ variation.

- A. anatomical
- B. physiological
- C. structural
- D. morphological

The correct answer is option [B]

66. Guanine always joins ____ base.

- A. thymine
- B. cytosine
- C. adenine
- D. thiamine

The correct answer is option [B].

67. A pair of genes which control a trait is described as _____.

- A. dominant
- B. recessive
- C. allele
- D. variant

The correct answer is option [C]

68. The haploid number of chromosomes in man is _____.

- A. 23
- B. 46
- C. 42
- D. 24

The correct answer is option [A]

69. The most common means of transmitting the Acquired Immune Deficiency Syndrome (AIDS) is _____.

- A. through cuddling a naked baby
- B. through blood transfusion
- C. through sexual intercourse
- D. through the sharing of needles

The correct answer is option [C]

70. In the structure of RNA, uracil pairs with ____.

- A. cytosine
- B. thymine
- C. guanine
- D. adenine

The correct answer is option [D].

71. Genes are made up of a long chain of ____.

- A. RNA
- B. tRNA
- C. DNA
- D. all of the above

The correct answer is option [C].

72. If a man of blood group AB marries a woman of blood group O, which one of the following will be in the first filial generation?

- A. AB
- B. OO
- C. AA

D. AO

The correct answer is option [D].

73. The F_1 of a monohybrid cross between a tall and dwarf plant was tall. In the F_2 generation, how many of 120 F_2 plants will be dwarf?

A. 30

B. 60

C. 90

D. 120

The correct answer is option [A]

The offspring of the second generation of a monohybrid cross are often a mixture, with roughly three-quarters dominant and one-quarter recessive.

74. The carrier of the hereditary characters in plants and in animals is the _____.

A. gene

B. nucleus

C. chromosome

D. chloroplast

The correct answer is option [A]

75. Heredity is the transmission of inherited characters from parent to offspring via _____.

A. gene

B. hybrid

C. vigour

D. gamete

The correct answer is option [A]

TOPIC: EVOLUTION

DIRECTION: Choose the correct answer from the lettered options.

1. Long neck in giraffe is used to illustrate the theory of ____.

- A. use and disuse
- B. origin of species
- C. origin of life
- D. natural selection

The correct answer is option [A]

According to Lamarck, an organism could acquire traits through use or disuse of body parts.

2. Which of the following fields of study cannot yield strong evidence of evolution?

- A. Fossil
- B. Histology
- C. Ecology
- D. Genetics

The correct answer is option [C]

Ecology is the study about the relationships among living things and their physical environment.

3. Which one of the following is not a castes of the honey bee?

- A. Queen
- B. King
- C. Drone
- D. Workers

The correct answer is option [B].

4. The drones in the colony of the honey bees are ____.

- A. sterile females
- B. reproductive female
- C. males
- D. completely sterile male

The correct answer is option [C].

5. The following are structural adaptations of a bony fish to life in water except ____.

- A. a streamlined body shape
- B. overlapping scales
- C. gills
- D. a tail and tail fins

The correct answer is option [B]

6. Which of the following has the most primitive respiratory system?

- A. Rat
- B. Fish
- C. Toad
- D. Grasshopper

The correct answer is option [B]

7. When the original king and queen of termites die, they are replaced by ____.

- A. the king and queen of another colony
- B. One or more secondary reproductive from the same colony
- C. some adult workers, which are specially fed to breed
- D. some mature soldiers nurtured as secondary reproductive

The correct answer is option [B]

8. Which one of the following is not a coelenterate?

- A. Hydra
- B. Tarantula
- C. Jelly fish
- D. Physalia

The correct answer is option [B].

9. The following are adaptive properties of plants for the conservation of water during drought except _____.

- A. spines
- B. bright coloured flowers
- C. succulent stems
- D. deep roots

The correct answer is option [B].

10. The pedipalp in spiders is used for _____.

- A. breathing
- B. growing
- C. feeling
- D. web spinning

The correct answer is option [C]

11. Plants growing in arid land are called _____.

- A. xerophytes
- B. hydrophytes
- C. hygrophytes
- D. none of the above

The correct answer is option [A].

12. _____ laid down the basis for genetic studies.

- A. Thomas Morgan
- B. Gregor Mendel
- C. Charles Darwin
- D. Robert Hooke

The correct answer is option [B]

13. Which one of the following is not associated with the chemistry of photosynthesis?

- A. $4\text{H}_2\text{O} \rightarrow 4\text{H} + 4\text{OH}$
- B. $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow 2\text{C}_2\text{H}_5\text{OH} + 2\text{CO}_2$
- C. $\text{CO}_2 + 4\text{H} \rightarrow \text{CH}_2\text{O} + \text{H}_2\text{O}$
- D. $4\text{OH} \rightarrow 2\text{H}_2\text{O} + \text{O}_2$

The correct answer is option [B]

14. Examples of competitors in animals are _____ and _____.

- A. lizard, mouse
- B. snake, bird
- C. grasshopper, mouse
- D. cheetahs, lions

The correct answer is option [D]

15. Which of the following corresponds with the idea that the environment determines which organism survives and reproduce?

- A. The theory of acquired characters
- B. Jean Lamarck's theory of use and disuse
- C. Survival of the fittest
- D. Fossil records

The correct answer is option [C]

16. Carnassial teeth are characteristic of _____ mammals.

- A. omnivorous
- B. herbivorous
- C. carnivorous
- D. none of the above

The correct answer is option [C].

17. Birds have feathers on their body that is used for _____.

- A. flight
- B. beautification of the bird
- C. regulation of body temperature
- D. reproduction and hatching of egg

The correct answer is option [C].

18. Which of the following sets of organisms represents the correct trend from simple to complex structural organization?

1. Mollusca; 2. Platyhelminthes; 3. Nematode; 4. Protozoa.

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

The correct answer is option [D]

19. The possession of bright colours by an insect functions as _____.

- A. a means to secure the opposite sex
- B. decoration

- C. pollinating agent
- D. a means to distract predators

The correct answer is option [D].

20. In the illustration below, the hawk is _____.



- A. a scavenger
- B. a primary consumer
- C. a tertiary consumer
- D. an omnivore

The correct answer is option [C]

21. Which of the following habitats cannot be used for the study of succession?

- A. A savanna grassland
- B. An abandoned farmland
- C. A pond
- D. A well cultivated land

The correct answer is option [D]

22. Which one of the following plants store water in their stems?

- A. Cactus
- B. Bryophyllum
- C. Portulaca
- D. Casuarina

The correct answer is option [A].

23. Insects show considerable power of water conservation due to the fact that ____.

- A. the chitinous cuticle is impregnated with tanned proteins
- B. nitrogenous waste is eliminated as urea
- C. chitin is impermeable to water
- D. the malpighian tubules are impermeable to water

The correct answer is option [C]

24. Which of the following helps birds maintain their body temperature?

- A. Blood, which maintains constant temperature.
- B. Feathers, which cover the body.
- C. Skin, which conserves moisture.
- D. Veins, which transport fluid of constant temperature to all body tissues.

The correct answer is option [B]

25. Which one of the following insects is not a social animal?

- A. Fly
- B. Termite
- C. Bee
- D. Ant

The correct answer is option [A].

26. What ecological condition favours the breeding of black flies?

- A. Fresh water habitat
- B. Water in ponds and swamps
- C. Water in small containers
- D. Fast flowing streams

The correct answer is option [B]

27. Which of the following fruits is a schizocarp?

- A. Groundnut
- B. Desmodium
- C. Crotalaria
- D. Cashew

The correct answer is option [B]

A schizocarp is a many-seeded simple true fruit that develops from a syncarpous ovary.

28. The blind and sterile females are the ____ in the castes of termites.

- A. soldiers
- B. queen
- C. king
- D. workers

The correct answer is option [D].

29. Which one of the following does not have hoof or horn?

- A. Porcupine
- B. Deer
- C. Goat
- D. Horse

The correct answer is option [A].

30. The amount of water loss from a leaf can be detected using ____.

- A. red litmus paper
- B. pink cobalt chloride paper
- C. blue litmus paper
- D. blue cobalt chloride paper

The correct answer is option [D]

Cobalt chloride is blue coloured in anhydrous (dry) form but turns pink when it comes in contact with water. This property of cobalt chloride is used to demonstrate that water is lost during transpiration.

31. _____ is the type of adaptation in which an organism possesses special structures which enhances its chances of surviving successfully in its environment.

- A. Behavioral adaptation
- B. Structural adaptation
- C. Evolutional adaptation
- D. Physical adaptation

The correct answer is option [B].

32. The evidence for can be obtained from one of the following except _____.

- A. fossil
- B. anatomy
- C. history
- D. embryology

The correct answer is option [C]

33. _____, a British biologist in 1859 propounded a theory of organic evolution.

- A. Charles Darwin
- B. Theodore Schwann
- C. Jean Baptist Lamarck
- D. Hugo de Vries

The correct answer is option [A].

34. The stinging and biting mechanism of some animals are for _____.

- A. feeding

- B. defence
- C. movement
- D. all of the above

The correct answer is option [B].

35. Animals aestivate when the environment in which they live becomes ____ and ____.

- A. hot and dry
- B. cold and wet
- C. warm and humid
- D. windy and snowy

The correct answer is option [A]

36. One of the major criticisms against Mendelian laws is that they do not recognise that _____

- A. One trait is often controlled by many pairs of genes
- B. single factor inheritance is never a reality
- C. complete dominance is always possible
- D. incomplete dominance is not possible

The correct answer is option [A]

37. The nature of the mouth parts of dragonfly is ____.

- A. probosis
- B. mandibulate
- C. rostrum
- D. cilliate

The correct answer is option [B].

38. _____, _____ and _____ are adaptive features of plants to desert conditions.

- A. Thick barks, succulent stems and sunken stomata
- B. Thin barks, succulent stems and sunken stomata
- C. Thin barks, air floats on stems and sunken stomata
- D. Air spaces in tissues, adventitious roots and thick barks

The correct answer is option [A]

39. Who formulated the theory of natural selection in evolution?

- A. Louis Pasteur
- B. Charles Darwin
- C. Jean Lamarck
- D. Mathias Schneider

The correct answer is option [B]

40. Which one of the following plants do not possess succulent stem?

- A. Euphorbia
- B. Cactus
- C. Casuarina
- D. Baobab tree

The correct answer is option [C].

41. Animals living in dry places develop _____ on their skin to prevent water loss from their body.

- A. feathers
- B. hairs
- C. scales
- D. pores

The correct answer is option [C].

42. The feeding mechanism of an ant is _____.

- A. biting and sucking
- B. sucking
- C. biting and chewing
- D. squeezing and swallowing

The correct answer is option [C].

43. The table is a punnett square for sex determination in man.

Which of the following determines a normal male offspring?

		EGG	
		X	X
SPERM	X	XX	XX
	Y	XY	XY

- A. X
- B. Y
- C. XX
- D. XY

The correct answer is option [D]

44. Failure of species to adapt to any environment may lead to _____.

- A. domination
- B. competition
- C. stunted growth
- D. extinction

The correct answer is option [D]

45. Insects have very hard chitinous externally located skeleton called _____.

- A. endoskeleton

- B. exoskeleton
- C. ectoskeleton
- D. all of the above

The correct answer is option [B].

46. The type of vegetation of a particular habitat is affected by the following except _____.

- A. nature of soil particles
- B. amount of rainfall
- C. mineral content of the soil
- D. depth of the water table

The correct answer is option [D]

47. ____ is a behavioural adaptation in which some animals spend hot weather in inactive condition.

- A. Aestivation
- B. Hibernation
- C. Nuptial flight
- D. Tunnelling

The correct answer is option [A].

48. Which one of the following is a type of adaptation possessed by organisms?

- A. Counter shading
- B. Warning
- C. Mimicry
- D. All of the above

The correct answer is option [D].

49. In the geologic time table, the Mesozoic era is the age of _____.

- A. mammals
- B. marine reptiles
- C. ancient life
- D. none of the above

The correct answer is option [B].

50. The spines and scales of porcupine and scaly anteater are structures used for _____.

- A. excretion of waste matter
- B. defence against predators
- C. basking
- D. mating and reproduction

The correct answer is option [B].

51. Which of the following is not a herbivore?

- A. Longhorn beetle
- B. Ant
- C. Honey bees
- D. Dragonfly

The correct answer is option [D].

It feeds on mosquitoes.

52. Which one of the following animals does not have scales?

- A. Lizards
- B. Snakes
- C. Tortoises

D. Crocodiles

The correct answer is option [C].

53. The gradual, cumulative, adaptive and heritable changes in an organism over a long period of time resulting in emergence of new species is known as _____.

A. adaptation

B. survival

C. organic

D. variation

The correct answer is option [C]

54. The beak of the _____ is strong, short and conical.

A. sunbird

B. parrot

C. hen

D. weaver bird

The correct answer is option [D].

55. A green snake in a green grass is able to escape unnoticed from predators because of its _____.

A. disruptive colouration

B. counter shading

C. warm colouration

D. cryptic colouration

The correct answer is option [D]

57. According to Charles Darwin's theory of evolution, natural selection involves the survival of the ____.

- A. weakest
- B. most populous species
- C. youngest
- D. fittest

The correct answer is option [D]

Charles Darwin deduced that in a population, those that tend to survive and reproduce are the individuals whose variations give them competitive advantage over the rest.

59. What is the function of the male adult honey bee?

- A. To clean the hive.
- B. To ventilate the hive.
- C. To mate with the queen.
- D. To care for the young.

The correct answer is option [C]

60. The behavioural adaptation in which some mammals spend cold season in inactive condition is known as ____.

- A. burrowing
- B. aestivation
- C. hibernation
- D. all of the above

The correct answer is option [C].

61. Charles Darwin's theory on is based on _____.

- A. adaptation
- B. genetic drift
- C. mandolin inheritance
- D. natural inheritance

The correct answer is option [D]

According to Darwin, natural selection, acting through environmental pressures, is the driving force behind evolutionary change.

62. The wing of a bat and that of a bird, the flippers of a whale and the fins of a fish are examples of _____.

- A. adaptive radiation
- B. vestigial structures
- C. divergent
- D. convergent

The correct answer is option [C]

Divergent is the process of two or more related species becoming more and more dissimilar. Meanwhile, in convergent evolution, unrelated species become more and more similar in appearance as they adapt to the same kind of environment.

63. The rate of is not affected by _____.

- A. embryology
- B. natural selection
- C. gene flow
- D. genetic drift

The correct answer is option [A].

64. In ecology, the transect method can be used to estimate the _____.

- A. number of plants and animals in an area
- B. population of a particular plant species
- C. number and types of plants in an area
- D. heights of trees in a section of a forest

The correct answer is option [C]

65. Hormones are ____.

- A. secreted into the blood through ducts
- B. secreted directly into the blood stream
- C. inactive chemical substances in the blood stream
- D. non-specific in their mode of action

The correct answer is option [B]

66. Which of the following is one of the Lamarck theories?

- A. Some variations are more variable to existence in a given ecological environment than others.
- B. All living organisms are constantly involved in a struggle for existence.
- C. The size of a given population remains fairly constant.
- D. New species originate through the inheritance of acquired traits.

The correct answer is option [D]

67. ____ are long preserved remains or imprints of organisms that once lived.

- A. Fossils
- B. Skeletons
- C. Bones
- D. None of the above

The correct answer is option [A].

68. In contrast to the more recent fossil bearing rocks, the older fossil bearing rocks are more likely to contain _____.

- A. animal remains than plant remains
- B. invertebrates rather than vertebrates
- C. flowering plants rather than smaller vertebrates
- D. protozoans rather than fishes

The correct answer is option [A]

69. Which of the following represents the evolutionary sequence in these plants? 1. Flowering plants; 2. Ferns; 3. Mosses; 4. Algae; 5. Conifers.

- A. 2 -> 1 -> 4 -> 3 -> 5
- B. 5 -> 4 -> 3 -> 2 -> 1
- C. 2 -> 4 -> 5 -> 1 -> 3
- D. 4 -> 3 -> 2 -> 5 -> 1

The correct answer is option [D]

70. Which one of the following laws states that during the development of an individual, it passes through many embryonic stages that its ancestors underwent simply because the mechanism of development was inherited from common ancestor?

- A. cytology
- B. embryology
- C. fossilization
- D. none of the above

The correct answer is option [D].

71. Fossil records found in sedimentary rocks offer some explanation for the theory of because _____.

- A. the deposits have remains of the organism's characteristic of when they were formed

- B. different strata have remains of organisms of the same kind
- C. only organisms with strong parts are fossilized
- D. animal and plant fossils found, still had some physical resemblance to the living organism

The correct answer is option [A]

72. Which of the following is not an evidence supporting organic evolution?

- A. Comparative anatomy
- B. Vestigial organs
- C. Mutation
- D. Fossils

The correct answer is option [C].

73. Homologous structures can be used to explain the evidence of ____.

- A. comparative anatomy
- B. fossils
- C. vestigial organs
- D. genetics and man

The correct answer is option [A].

74. Darwin is considered the first scientist who correctly explained the theory of ____.

- A. special creation
- B. spontaneous generation
- C. use and disuse
- D. organic

The correct answer is option [D]

75. The praying mantis feeds on ____.

- A. leaves
- B. fluids
- C. insects
- D. flowers

The correct answer is option [C].

It feeds on living insects; larger species have been known to prey on small lizards, frogs, birds, snakes and even rodents.

76. Which one of the following sets are the final products of aerobic respiration?

- A. Water, carbon dioxide and energy
- B. Water, carbon dioxide and pyruvic acid
- C. Glucose, energy and urea
- D. Carbon dioxide and energy

The correct answer is option [A]

77. The scientific name for the "flame of the forest" plant is ____.

- A. Hibiscus esculentus
- B. Vernonia sp.
- C. Aloe sp.
- D. Delonix regia

The correct answer is option [D].

78. _____ is the series of gradual and adaptive changes which living organisms had undergone in response to changes in their environment since the beginning of their lives.

- A. Evolution
- B. Development
- C. Growth
- D. Adaptation

The correct answer is option [A].

79. In tapeworms, suckers on the scolex are used for ____.

- A. sucking the blood of the host
- B. holding fast to the host
- C. reproduction
- D. gaseous exchange

The correct answer is option [B]

80. Which of the following is not one of Darwin's deductions concerning natural selection?

- A. Food and other needs are abundant.
- B. There is a fierce competition among offsprings.
- C. The weaker offsprings are eliminated.
- D. Nature selects those that will survive to reproduce their kind.

The correct answer is option [A]

81. The phylum Arthropoda is full of members that _____ and _____ .

- A. bite and chew
- B. sting and bite
- C. sting and chew
- D. pierce and suck

The correct answer is option [B].

82. Which of the following parts of the tongue is sensitive to sugar?

- A. Tip
- B. Back
- C. Right side
- D. Left side

The correct answer is option [A]

83. _____ postulated the concept of use and disuse of organs.

- A. Charles Darwin
- B. Jean-Baptiste Lamarck
- C. Gregor Mendel
- D. Alfred Russel Wallace

The correct answer is option [B]

TOPIC: HORMONAL COORDINATION

DIRECTION: Choose the correct answer from the lettered options.

1. IAA is the most abundant natural auxin manufactured in plants and it stands for _____.

- A. indoleacetyl acid
- B. indoleacetate acid
- C. indoleacetic acid
- D. indoaldehyde acid

The correct answer is option [C].

2. Which of the following is a hormone secreted by the pituitary gland?

- A. Oxytocin
- B. Thyroxine
- C. Parathormone
- D. Thyroid

The correct Answer is option [A].

3. Increase in blood sugar level stimulates the production of _____.

- A. insulin
- B. oestrogen
- C. progesterone
- D. prolactin

The correct answer is option [A].

4. Which of these is not a function of the liver?

- A. Storage of blood
- B. Secretion of hormone
- C. Detoxication
- D. Production of heat

The correct Answer is option [B].

5. What organ is located just below the diaphragm?

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

The correct Answer is option [B].

6. The ____ is the largest internal organ of a human.

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

The correct Answer is option [A].

7. The endocrine system acts _____.

- A. swiftly and slowly
- B. chemically and swiftly
- C. slowly and chemically
- D. internationally and chemically

The correct answer is option [C].

8. The abscisic acid is a plant _____ produced in matured _____, _____ and _____.

- A. hormone, green leaves, fruits, root cap
- B. sap, green, leaves, roots
- C. secretion, leaves, barks, stem
- D. excretion, leaves, barks, fruits

The correct Answer is option [A].

9. Pituitary gland is also referred to as the _____ gland.

- A. thyroid
- B. master
- C. coordinate
- D. effector

The correct answer is option [B].

10. Endocrine hormone molecules are secreted directly into the _____.

- A. neuron
- B. exocrine gland
- C. blood stream
- D. neuron-reflex

The correct Answer is option [C].

11. Which of the following is not a role of auxins?

- A. Abscission
- B. Cell division
- C. Fruit development
- D. Leaf formation

The correct answer is option [B].

12. Over secretion of insulin leads to _____ blood sugar level.

- A. an increase in

- B. a fall in
- C. an average
- D. a constant

The correct Answer is option [B].

13. The hormone that regulates the growth of the body is known as ____ hormone.

- A. adrenalin
- B. pitocin
- C. prolactin
- D. somatotropic

The correct answer is option [D].

14. Hormones are _____.

- A. inorganic chemicals secreted by the pancreas, central to regulating carbohydrate and fat metabolism in the body
- B. chemical substances secreted by endocrine glands in response to various stimuli
- C. organic materials that aid digestion of food substances
- D. reproductive chemicals secreted to aid parturition

The correct Answer is option [B].

15. Which of the following is not a plant hormone?

- A. Cytokines
- B. Cytotoxins
- C. Auxins
- D. Absciscic acid

The correct Answer is option [B].

16. Contraction of the uterus muscles during child birth is a function of _____ hormone.

- A. oxytocin
- B. gonadotropic
- C. thyroxin
- D. adrenalin

The correct answer is option [A].

17. Endocrine glands release their secretions directly into the _____.

- A. blood stream
- B. ducts
- C. heart
- D. intestines

The correct Answer is option [A].

18. Adrenaline gland is located at the _____.

- A. left part of the kidney
- B. top of the kidney
- C. right-side of the kidney
- D. middle of the brain

The correct Answer is option [B].

19. Gastrin is secreted in the _____.

- A. hand
- B. eye
- C. stomach
- D. brain

The correct Answer is option [C].

20. Testosterone and androsterone are hormones located in the _____.

- A. penis
- B. testes
- C. scrotum
- D. anus

The correct answer is option [C].

21. Cytokinins and auxins act together to promote the replication of _____.

- A. RNA
- B. IAA
- C. DNA
- D. mRNA

The correct answer is [C]

22. _____ brings about ageing in leaves.

- A. Cytokinins
- B. Auxins
- C. Absciscic acid
- D. Gibberellins

The correct Answer is option [C].

23. Ethene gas is produced in _____, _____ and _____.

- A. the hands, legs, head
- B. blood, water, finger
- C. leaves, stems, young fruits
- D. stems, sticks, leaves

The correct Answer is option [C].

24. The testis is located in the _____.

- A. scrotum
- B. boxers
- C. prostate gland
- D. rectum

The correct Answer is option [A].

25. Hormones are substances that are _____ in nature.

- A. electrical
- B. chemical
- C. civil
- D. mechanical

The correct answer is option [B].

26. How does the nervous system act?

- A. Swiftly, instant and electronically
- B. Slowly, instantly and electrically
- C. Swiftly, instantly and electrically
- D. Swiftly, instantaneous and electrifyingly

The correct answer is option [C].

27. Excessive development of sexual organs and secondary sex characters in men is caused by excess _____.

- A. thyroxine
- B. hormone
- C. testosterone
- D. blood

The correct Answer is option [C].

28. Over secretion of the pituitary growth hormone leads to ____.

- A. gigantism
- B. obesity
- C. dwarfism
- D. anorexia

The correct Answer is option [A].

29. Where is the pituitary gland located?

- A. Abdomen
- B. Head
- C. Mid-brain
- D. Kidney

The correct Answer is option [C].

30. Which of the following is a plant hormone?

- A. ADH
- B. Growth hormone
- C. Ethene
- D. Calcitonin

The correct Answer is option [C].

31. Hormones are produced by ____.

- A. ductless glands
- B. glands with ducts
- C. all glands
- D. ductal gland

The correct Answer is option [A].

32. _____ is one of the diseases of the kidney.

- A. Malaria
- B. Fever
- C. Yellow fever
- D. Diuresis

The correct Answer is option [D].

33. Root growth in stem cuttings is promoted by hormones.

- A. True
- B. False

The correct answer is option [A].

34. In plants, hormones are manufactured in the following except _____.

- A. apical meristems of roots and shoots
- B. young growing leaves
- C. developing seeds or fruits
- D. bright coloured flowers

The correct answer is option [D].

35. Rapid stem elongation in dwarf plants is stimulated by _____.

- A. cytokinins
- B. gibberellins
- C. auxin
- D. thyroxin

The correct answer is option [B].

36. Plants produce hormones only in the _____.

- A. parts exposed to sunlight
- B. parts in the soil
- C. growing parts
- D. recessive part

The correct answer is option [C].

37. Gibberellins are produced in _____.

- A. young foliage leaves
- B. mature leaves
- C. fruits
- D. seedlings

The correct Answer is option [A].

38. An example of a synthetic auxin is _____.

- A. 2, 4,-D
- B. 2, 6,-D
- C. 2, D
- D. 2, DD

The correct answer is option [A]. 2, 4,-Dichloropheno acetic acid

39. Hormones are _____.

- A. inorganic substances
- B. sensory receptors
- C. physical messengers
- D. organic substances

The correct Answer is option [D].

40. Exocrine glands release their chemicals into _____.

- A. vein
- B. duct
- C. blood streams
- D. arteries

The correct Answer is option [B].

41. Oestrogen is secreted in the _____.

- A. sperm
- B. ovum
- C. ovary
- D. fallopian tube

The correct Answer is option [C].

42. Together with the nervous system, the endocrine system forms a combined _____ system.

- A. neuro-endocrine
- B. neuro-exocrine
- C. neuro-crine
- D. nerve-end

The correct Answer is option [A].

43. The adrenal gland secretes _____ hormone.

- A. thyroxine
- B. oxytocin
- C. prolactin
- D. adrenaline

The correct Answer is option [D].

44. One of the effects of abscisic acid is that _____.

- A. it suppresses the growth of buds
- B. it increases the growth of buds
- C. it encloses the height of buds
- D. allows all kinds of growth

The correct Answer is option [A].

45. Adrenaline hormone is produced by the following stimulations except _____.

- A. fright
- B. anger
- C. stress
- D. laughter

The correct answer is option [D].

46. Which of the following is produced during ovulation?

- I Progesterone
- II Testosterone
- III Adrenaline

- A. I and II only
- B. III only
- C. I only
- D. II and III only

The correct answer is option [C].

47. What organ is responsible for the metabolism of food substances?

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

The correct Answer is option [C].

48. _____ is a growth inhibitor whose effects generally oppose those of auxins.

- A. Gibberellins
- B. Absciscic acid
- C. Cytokinins
- D. Hormone

The correct Answer is option [B].

49. _____ is not a plant hormone.

- A. Auxin
- B. Parathormone
- C. Gibberellins
- D. Cytokinins

The correct answer is option [B].

50. In animals, hormones are manufactured in the _____.

- A. endocrine glands
- B. blood stream
- C. gastrointestinal tract
- D. lungs

The correct answer is option [A].

TOPIC: NERVOUS COORDINATION

DIRECTION: Choose the correct answer from the lettered options.

1. The part of the nervous system that interprets blinking of the eye is the _____.

- A. spinal cord
- B. cerebrum
- C. hind brain
- D. olfactory lobe

The correct answer is option [A]

The spinal cord acts as a pathway between the brain and the spinal nerves, while coordinating simple reflex actions and automatic reflexes.

2. The brain is made up of _____ main parts.

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

The correct Answer is option [D].

3. From the following options, sensory receptors are often found in the _____ and _____.

- A. ear, eye
- B. bones, arteries
- C. blood, bones
- D. eye lashes, teeth

The correct Answer is option [A].

4. Which one of the following is not a reflex action?

- A. Coughing
- B. Sleeping
- C. Sneezing
- D. Blinking

The correct answer is option [B].

5. The cerebrum and olfactory lobes are parts of the _____.

- A. forebrain
- B. hindbrain
- C. midbrain
- D. medulla

The correct Answer is option [A].

6. The complex network that coordinates the various activities of multicellular animals is the ____ system.

- A. respiratory
- B. skeletal
- C. muscular
- D. nervous

The correct answer is option [D].

7. The hypothalamus functions in the regulation of all except _____

- A. water balance
- B. sleep
- C. blood pressure
- D. voluntary actions

The correct answer is option [D].

8. Sensory receptors also acts as _____.

- A. information
- B. information collectors
- C. informal collections
- D. collectors

The correct Answer is option [B].

9. The complex network that coordinates the various activities of multicellular animals is the ____ system.

- A. respiratory
- B. skeletal
- C. muscular
- D. nervous

The correct answer is option [D].

10. The brain and spinal cord make up the _____ nervous system.

- A. peripheral
- B. autonomic
- C. central
- D. somatic

The correct answer is option [C]

11. Sensory receptors also acts as _____.

- A. information
- B. information collectors
- C. informal collections
- D. collectors

The correct Answer is option [B].

12. Axons are referred to as _____.

- A. nerve fibres
- B. muscle fibres
- C. skeletal cells
- D. hormones

The correct Answer is option [A].

13. The nervous system of vertebrates consist of the _____.

- A. central nervous system (CNS) and peripheral nervous system (PNS)
- B. center nervous system and upper nervous system
- C. terrestrial nervous systems and aquatic nervous system
- D. sensory nervous system and motor nervous system

The correct Answer is option [A].

14. The brain is made up of _____ main parts.

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

The correct Answer is option [D].

15. The basic structural unit of the nervous system is the _____ cell.

- A. neutron
- B. electron
- C. nephron
- D. nerve

The correct Answer is option [D].

16. A bundle of long nerve fibres is called _____.

- A. fabric
- B. fibrings
- C. nerves
- D. nervous

The correct Answer is option [C].

17. The spinal nerves and cranial nerves are part of the _____.

- A. digestive system
- B. central nervous system
- C. peripheral nervous system
- D. circulatory nervous system

The correct Answer is option [C].

18. The spaces between neurones through which impulses are sent by means of a chemical reaction are called _____.

- A. axons
- B. ganglia
- C. synapses
- D. dendrites

The correct answer is option [C]

19. What are the different types of neurons?

- A. Senses, motor and associated neurons
- B. Sensory, association and motor neurons
- C. Association, sensed and motors neurons
- D. Motor, sensed and associates neurons

The correct answer is option [B].

20. The two small structures placed anteriorly on the cerebrum are called _____.

- A. fibres
- B. olfactory lobes
- C. corpus callosum
- D. thalamus

The correct answer is option [B].

21. An automatic response of the body to a stimulus is known as _____.

- A. a voluntary action
- B. an involuntary action
- C. an automatic action
- D. an accidental action

The correct answer is option [B].

22. The meninges in the brain responsible for protection of the brain is known as _____.

- A. dura mater
- B. arachnoid mater
- C. pia mater
- D. none of the above

The correct answer is option [A].

23. The cerebrum and olfactory lobes are parts of the _____.

- A. forebrain
- B. hindbrain
- C. midbrain
- D. medulla

The correct Answer is option [A].

24. Reading the verdict of a case by a judge or magistrate is an example of ____.

- A. a reflex action
- B. an instinct
- C. a conditioned reflex
- D. a voluntary action

The correct answer is option [D]

25. In a mammal, stimulus is transferred from the receptor muscle to the central nervous system through the ____.

- A. motor neurons
- B. effector muscles
- C. dendrites
- D. sensory neurons

The correct answer is option [D]

26. _____ is the largest part of the brain.

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

The correct Answer is option [C].

27. Nervous system passes messages mainly as _____ along nerves.

- A. electrical impulses
- B. manual impulses
- C. mechanical impulses
- D. blood impulses

The correct Answer is option [A].

28. _____ stimulates secretion from the salivary gland and the constriction of the iris.

- A. Somatic nervous system
- B. Parasympathetic nervous system
- C. Cranial nerves
- D. Spinal cord

The correct Answer is option [B].

29. The response to the source of the reflex action "salivation" when food is perceived is _____.

- A. eating the food
- B. staring at the food
- C. flow of saliva
- D. flow of salivate

The correct answer is option [C].

30. The part of the nervous system that interprets blinking of the eye is the _____.

- A. spinal cord
- B. cerebrum
- C. hind brain
- D. olfactory lobe

The correct answer is option [A]

The spinal cord acts as a pathway between the brain and the spinal nerves, while coordinating simple reflex actions and automatic reflexes.

31. The hypothalamus functions in the regulation of all except _____.

- A. water balance
- B. sleep
- C. blood pressure
- D. voluntary actions

The correct answer is option [D].

32. In voluntary action, sensory nerves send impulses to the spinal cord and then to the _____.

- A. brain
- B. thalamus
- C. cranium
- D. pons varolli

The correct answer is option [A].

33. The following make up the forebrain except _____.

- A. olfactory lobes
- B. cerebrum
- C. hypothalamus
- D. cerebellum

The correct answer is option [D].

34. The brain and spinal cord are part of the _____.

- A. endocrine system

- B. circulatory system
- C. nervous system
- D. skeletal system

The correct Answer is option [C].

35. From the following options, sensory receptors are often found in the _____ and _____.

- A. ear, eye
- B. bones, arteries
- C. blood, bones
- D. eye lashes, teeth

The correct Answer is option [A].

36. The nervous system is divided into ____ parts.

- A. 3
- B. 4
- C. 2
- D. 6

The correct Answer is option [C].

37. The centre of learning and memory in the human brain is the ____.

- A. medulla oblongata
- B. cerebellum
- C. cerebrum
- D. olfactory lobe

The correct answer is option [C]

38. The centre for sensation of pains, touch and anger is the ____.

- A. spinal cord
- B. thalamus
- C. grey matter
- D. cortex

The correct answer is option [B].

39. _____ detects stimuli from the external and internal environment.

- A. Sensory givers
- B. Sensory banners
- C. Sensory receptors
- D. sensory organelles

The correct Answer is option [C].

40. The nervous system consists of _____ parts.

- A. 3
- B. 2
- C. 4
- D. 6

The correct answer is option [B]. Central and Peripheral nervous systems

41. The stimulus receiver in the body is called the _____.

- A. sensory nerve
- B. motor nerve
- C. receptor organ
- D. spinal cord

The correct answer is option [C]

42. What is coordination?

- A. It is the arrangement of cell, tissue, organ and system in the body.
- B. It is the process by which different parts of an organism work together for proper effectiveness.
- C. It is the aligning of various organs of the body, hence ensuring proper body functioning.
- D. It is the electrical collation of the nervous tissues of the body.

The correct Answer is option [B].

43. Voluntary actions are _____.

- A. reflex actions
- B. resident in the neck
- C. actions in the fore limbs
- D. anticipated actions

The correct answer is option [D].

44. The central nervous system consists of the ____ and ____.

- A. brain, spinal cord
- B. head, spinal cord
- C. arteries, brain
- D. sense organs, nerves

The correct Answer is option [A].

45. In a typical nerve cell, electrical activity generated is generated at the _____.

- A. myelin sheath
- B. dendrites
- C. axon
- D. node of Ranvier

The correct answer is option [D]

46. This structure can be found in the _____.



- A. sympathetic and parasympathetic nervous systems
- B. peripheral and central nervous systems
- C. peripheral nervous system only
- D. central nervous system only

The correct answer is option [B]

The diagram depicts a neurone. A neurone is the basic structural unit of the nervous system which comprises the peripheral and central nervous systems.

47. One of the functions of a neurone is _____.

- A. only receiving nerve impulses
- B. receiving and transmitting impulses
- C. giving out reflex action
- D. the total actions in the body

The correct Answer is option [B].

48. What is a neurone?

- A. It is the entire structure of the central nervous system responsible for the transmission of nerve impulses.
- B. It is the organized part of the brain and spinal cord that is responsible for only receiving sensory information.
- C. It is the basic unit of nervous system which is responsible for the transmission of impulses within the body.
- D. It is the actual point of transmission of impulses within the body.

The correct Answer is option [C].

49. The central nervous system consists of the _____ and _____.

- A. fore and hind
- B. brain and spinal cord
- C. sensory and motor
- D. nerves and spinal cord

The correct Answer is option [B].

50. The _____ system passes messages as chemical substances in the blood.

- A. nervous
- B. digestive
- C. circulatory
- D. endocrine

The correct Answer is option [D].

51. The _____ is the centre for controlling body temperature in the brain.

- A. cerebrum
- B. cerebellum
- C. medulla
- D. hypothalamus

The correct answer is option [D]

The hypothalamus acts as a link between the nervous system and the endocrine system. It controls endocrine secretions by monitoring the metabolites and hormone levels in blood.

TOPIC: REGULATIONS OF INTERNAL ENVIRONMENT (HOMEOSTASIS)

DIRECTION: Choose the correct answer from the lettered options.

1. Which of the following are components of glomerular filtrate?

- A. All the components of blood except mineral salts
- B. Blood cells, amino acid, salts and nitrogenous wastes
- C. All the components of blood except plasma protein and cells
- D. Plasma proteins, red and white blood cells

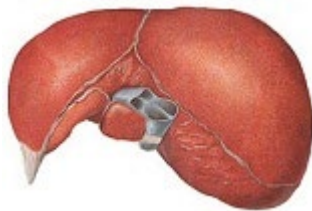
The correct answer is option [C]

2. Which one of the following is an effect of hepatitis?

- A. Yellowing of eyes and skin
- B. Bulimia nervosa
- C. Anaemia
- D. Indigestion

The correct answer is option [A]

3. What is the name of this organ?



- A. Kidney
- B. Leg
- C. Liver
- D. Hand

The correct Answer is option [C].

4. The cup-shaped part of the Bowman's capsule contains the ____.

- A. nephridium
- B. glomerulus
- C. loop of henle
- D. nephron

The correct answer is option [B]

Ultrafiltration occurs in the glomerulus.

5. ____ is a stimulus that cannot be perceived through the skin of mammals.

- A. Light
- B. Pressure
- C. Pain
- D. Heat

The correct answer is option [A]

6. The solute concentration of blood rises when we _____.

- A. sweat profusely
- B. eat very little salt
- C. drink plenty of water
- D. shiver

The correct Answer is option [A].

7. Which of the following endocrine glands is a master gland?

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

The correct answer is option [A]

The pituitary gland is called the 'master gland' because it controls the functions of other endocrine glands.

8. _____ is the ability of an organism or cell to maintain internal equilibrium by adjusting its physiological processes.

- A. Hemoglobin
- B. Hydrogen
- C. Hormone
- D. Homeostasis

The correct Answer is option [D].

9. Water balance in the body is one of the functions of the _____.

- A. liver
- B. brain
- C. hypothalamus
- D. kidney

The correct answer is option [D].

10. Body fluids include _____, _____ and _____.

- A. blood, lymph, intercellular fluid
- B. body tissues, organs, blood
- C. fingers, water, sweat
- D. urine fluid, uric acid, sweat

The correct Answer is option [A].

11. Aldosterone is a hormone from the _____.

- A. liver
- B. adrenal cortex
- C. thyroid cortex
- D. lungs

The correct Answer is option [B].

12. _____ wastes are removed by the kidney.

- A. Oxygenous
- B. Nitrogenous
- C. Carbonated
- D. Phosphorous

The correct Answer is option [B].

13. Reduction of cholesterol intake is a remedy for _____.

- A. cancer
- B. gall stones
- C. kwashiorkor
- D. rickets

The correct answer is option [B].

14. The control mechanism of keeping the osmotic pressure constant is known as a _____ feedback mechanism.

- A. negative
- B. positive
- C. kinetic
- D. normal

The correct Answer is option [A].

15. The skin is an organ for touch and _____.

- A. excretion
- B. respiration
- C. temperature regulation
- D. sight

The correct answer is option [A]

16. The ability of organisms to maintain a constant internal environment is known as _____.

- A. diuresis
- B. endosmosis
- C. plasmolysis
- D. homeostasis

The correct answer is option [D]

17. Blood vessels supply _____ to the tissues of the skin.

- A. blood
- B. water
- C. food and oxygen
- D. vitamins

The correct answer is option [C].

18. The removal of excess urine from the body through the kidney is called _____.

- A. dialysis
- B. diuresis
- C. diabetes
- D. oedema

The correct answer is option [B].

19. The condition known as myxoedema is caused by the deficiency of _____.

- A. adrenalin
- B. vitamin A
- C. insulin
- D. thyroxine

The correct answer is option [D]

Myxoedema is characterized by dry skin, swellings around the lips and nose, mental deterioration, and a subnormal basal metabolic rate.

20. The control mechanism used to detect and adjust changes in the internal environment of an organism is called _____ process.

- A. homeostatic
- B. hormonal
- C. regulatory
- D. internal

The correct Answer is option [A].

21. The _____ has the overall control over the homeostatic processes in the body.

- A. spinal cord
- B. brain
- C. bones
- D. muscles

The correct Answer is option [B].

22. The regulation of the internal environment of the body is termed ____.

- A. hemolysis
- B. homeostasis
- C. plasmolysis
- D. regulation

The correct answer is option [B].

23. Keeping the osmotic pressure constant is an example of a _____ process.

- A. homeostatic
- B. internal
- C. hormonal
- D. regulatory

The correct Answer is option [A].

24. What makes up the internal environment of an organism?

- A. Urine, sweat and blood
- B. Body fluid
- C. Urine alone
- D. Water alone

The correct Answer is option [B].

25. Which of the following is not a function of the liver?

- A. Regulation of blood sugar
- B. Storage of bile
- C. Formation of bile
- D. Breakdown of excess amino acids

The correct answer is option [B]

26. Hypothalamus is a small body just above the _____ gland.

- A. ADH
- B. pituitary
- C. endocrine
- D. thyroid

The correct Answer is option [B].

27. _____ animals maintain a constant body temperature.

- A. Endothermic
- B. Hexathermic
- C. All
- D. Exerthermic

The correct Answer is option [A].

28. The mammalian skin consists of _____ major layers.

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

The correct answer is option [C].

The epidermis and the dermis. The subcutaneous adipose layer or hypodermis is not part of the skin, and lies below the dermis. Its purpose is to attach the skin to underlying bone and muscle as well as supplying it with blood vessels and nerves.

29. The entire surface of the body is covered by_____.

- A. hairs
- B. pores
- C. flesh
- D. skin

The correct answer is option [D].

30. How are kidney stones formed?

- A. They are formed when mineral salts in urine come out of solution as solid crystals.
- B. They are produced by the body when mineral acids in urine come out of solution as solid crystals.
- C. They are produced during body osmosis.
- D. They are required for proper kidney functioning.

The correct Answer is option [A].

31. The normal pH of blood is _____.

- A. 7.8
- B. 8.7
- C. -7.4
- D. 7.4

The correct Answer is option [D].

32. Which one of these is not a homeostatic mechanism?

- A. Osmoregulation
- B. Excretion

- C. Respiration
- D. Acid base balance

The correct answer is option [C].

33. The ____ is the largest organ in the body.

- A. liver
- B. kidney
- C. skin
- D. sebaceous gland

The correct answer is option [C].

34. ____ and ____ are produced at the hypothalamus.

- A. Anti-diuretic hormone and oxytocin
- B. ADI and OXI
- C. Anti-durex hormone and mammary hormone
- D. TSH and ADH

The correct Answer is option [A].

35. Over secretion of the growth hormone during childhood and adolescence causes a child to become ____.

- A. gigantic
- B. dwarfic
- C. energetic
- D. short

The correct Answer is option [A].

36. The increase in width of blood vessels in the mammal's skin at high temperature is known as _____.

- A. vasodilation
- B. sweating
- C. vasoconstriction
- D. shivering

The correct answer is option [A]

Vasodilation causes a large volume of blood to flow near the surface of the skin so that heat is lost to the surroundings via convection, conduction and radiation.

38. Bile is produced in the _____.

- A. gall bladder
- B. pancreas
- C. spleen
- D. liver

The correct answer is option [D]

39. The acronym ADH stands for _____.

- A. Anti-Dehydration Hormone
- B. Acute Dilation Hormone
- C. Anti-diuretic Hormone
- D. Another Dialated Hormone

The correct answer is option [C].

40. ____ is the pigment that gives the skin its colour.

- A. Melanin
- B. Tannin
- C. Cyanin
- D. Haem

The correct answer is option [A].

41. Diseases of the liver includes the following except _____.

- A. gallstones
- B. cancer of the liver
- C. nephritis
- D. hepatitis

The correct answer is option [C]

42. What is a kidney stone?

- A. It is a hard substance formed in the liver; shaped as the kidney.
- B. It is a stony mass formed by mineral matter that form in the kidney.
- C. It is an organic material that grows in the kidney and intestines of adults.
- D. It is a natural stones-like structure; found within the Bowman's capsule; formed from inorganic matter.

The correct Answer is option [B].

43. _____ and _____ are part of exothermic animals.

- A. Ectotherm, poikilotherm
- B. Enthotherm, exotherm
- C. Mexotherm, poikilotherm
- D. All animals

The correct Answer is option [A].

44. The word "homeostasis" is a _____ word.

- A. German
- B. Japanese
- C. Greek
- D. Nigerian

The correct Answer is option [C].

45. The pigment in the malpighian layer responsible for skin colouration is known as ____.

- A. haemoglobin
- B. haemocyanin
- C. chlorocruorin
- D. melanin

The correct answer is option [D]

46. The top most layer of the skin that consists of flat dead cells is known as ____.

- A. dermis
- B. cornified layer
- C. Malpighian layer
- D. epidermis

The correct answer is option [B].

47. Drinking excess alcohol can cause ____.

- A. drunkenness
- B. diarrhea
- C. diuresis
- D. appendicitis

The correct answer is option [C].

48. Detoxication in the liver involves ____.

- A. converting proteins to amino acids
- B. emulsification of fats and oils
- C. converting excess glucose into glycogen

D. breakdown of worn-out red blood cells

The correct answer is option [C]

49. Which of the following is an organ?

- A. Guard cell
- B. Liver
- C. Xylem bundle
- D. Blood

The correct answer is option [B]

50. Maintaining a steady internal environment of an organism is known as _____.

- A. haemoglobin
- B. homeostasis
- C. homeostasis
- D. hormones

The correct Answer is option [C].

51. Which of the following group of organs are involved in homeostasis?

- A. Kidney, liver, skin and lungs
- B. Mouth, tongue, liver and lungs
- C. Hair, liver, skin and tongue
- D. Sweat, hair, mouth and lungs

The correct Answer is option [A].

52. The glomerular nephritis is a kidney condition that occurs commonly in ____ and _____.

- A. children and adolescents
- B. adults and the aged

- C. the aged and children
- D. all persons

The correct Answer is option [A].

53. The following are diseases of the kidney except _____.

- A. nephritis
- B. kidney stone
- C. diuresis
- D. hepatitis

The correct answer is option [D].

Nephritis is an inflammation of the kidney.

Hepatitis is an inflammation of the liver caused by a virus or a toxin.

Diuresis is increased secretion of urine

Kidney stone is a calculus found in the kidney

54. Which of the following is excreted by the sweat glands?

- I Sulphur
- II Water
- III Salts
- IV Nitrogenous substances

- A. I, II and III only
- B. I, II, III and IV
- C. II, III and IV only
- D. III and IV only

The correct answer is option [C].

55. What are the names of the different layers of the epidermis?

- A. Cornified layer, granular layer and malpighian layer.

- B. Conifer layer, granular layers and Malpighian layer.
- C. Cornified layer, granular layer and Malpighian layer
- D. Cornified layers, granular layer and Malpighian layer

The correct answer is option [C].

56. The glomerular filtrate contains the following substances except ____.

- A. water
- B. urea
- C. blood corpuscles
- D. glucose

The correct answer is option [C]

The glomerulus acts like a filter thus preventing big molecules such as blood cells and plasma proteins from passing through it.

57. The ____ secretes a hormone that induces the thyroid gland to produce more thyroxine.

- A. islets of Langerhans
- B. adrenal gland
- C. pituitary gland
- D. parathyroid gland

The correct answer is option [D]

58. The skin manufactures and stores vitamin ____.

- A. C
- B. A
- C. B
- D. D

The correct answer is option [D].

59. How many lobes does the liver have?

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

The correct Answer is option [D].

60. Regulation of blood sugar level takes place in the _____.

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

The correct answer is option [C]

The liver regulates blood glucose levels by stimulating the production of insulin, glucagon and other hormones.

TOPIC: REPRODUCTIVE SYSTEM IN MAMMALS

DIRECTION: Choose the correct answer from the lettered options.

1. All of the following takes place after fertilization except _____.

- A. increase in ovary size
- B. gradual colour changes
- C. development of the fruit wall into pericarp
- D. disintegration of fruit wall

The correct answer is option [D].

2. In the human female, when two ova are released simultaneously and fertilized;
_____.

- A. identical twins are produced
- B. fraternal twins are produced
- C. siamese twins are produced
- D. the children produced are genetically identical

The correct answer is option [B]

3. A farmer left his land uncultivated for five years before returning to it. What farming method is he using?

- A. Modern agriculture
- B. Strip cropping
- C. Bush fallow system
- D. Crop rotation

The correct answer is option [C]

4. The transfer of pollen grains from the anther to the stigma of flowers is known as ____.

- A. pollination
- B. fertilization
- C. cross pollination
- D. sexual reproduction

The correct answer is option [A].

5. Which one of the following is not a characteristic of wind pollinated flowers?

- A. The flowers have no nectar.
- B. Pollen grains are usually tiny.
- C. Pollen grains are usually very rough.
- D. They are scentless.

The correct answer is option [C].

6. If an insect cell is left in distilled water for two hours, it is likely to ____.

- A. lose some of its water to the surrounding water
- B. lose all of its water to the surrounding water
- C. reproduce by binary fission
- D. become more turgid

The correct answer is option [D]

Since the distilled water is hypotonic to the contents of the cell, there would be a net movement of water molecules into the cell, causing it to swell and become turgid.

7. During seed development, the following changes take place in the ovule except that the ____.

- A. nucleus of the endospem develops
- B. guard cells degenerate
- C. micropyle expands

D. integument becomes the testa

The correct answer is option [C].

8. Which of these statements is not true of insects?

A. They are anthropods.

B. Their body is divided into three distinct regions of head, thorax and abdomen.

C. Their thorax comprises three segments, only two of which bear a pair of appendages each.

D. Respiration is by means of trachea.

The correct answer is option [C]

9. Seeds fail to germinate when temperature becomes _____.

A. too high or too low

B. average or optimum

C. optimum

D. none of the above

The correct answer is option [A].

10. A drupe consists of _____ layers.

A. 2

B. 4

C. 5

D. 3

The correct answer is option [D].

11. Which of the following organisms lacks a reproductive organ?

A. Chlamydomonas

B. Toad

- C. Pride of Barbados
- D. Cockroach

The correct answer is option [A]

Chlamydomonas is a unicellular organism; thus it cannot possess specialized cells.

12. Placentation of plants is best described as the ____.

- A. arrangement of ovules in the ovary
- B. arrangement of fruits on the branches
- C. development of ovules in the ovary
- D. formation of the pericarp from the ovary wall

The correct answer is option [A]

13. A structure that develops from the ovary after fertilization is called ____.

- A. leaf
- B. stalk
- C. stem
- D. fruit

The correct answer is option [D].

14. Dry dehiscent fruits are classified according to _____ type.

- A. fruit
- B. leaf
- C. pericarp
- D. flower

The correct answer is option [C].

15. Dispersal by explosive mechanism is common in fruits such as _____.

- A. kolanut

- B. groundnut
- C. oil bean
- D. cassia

The correct answer is option [C].

16. Fruits that are dispersed include all except _____.

- A. combretum
- B. bougainvillea
- C. tridax
- D. berries

The correct answer is option [B].

17. Which of the following conditions are necessary for seeds to germinate?

- A. Uric acid, very cold temperature, nitrogen and fruits.
- B. Urine, hot temperature, oxygen and viable seeds.
- C. Water, suitable temperature, stones and viable seeds.
- D. Water, suitable temperature, oxygen and viable seeds.

The correct answer is option [D].

18. Which one is not an example of a multiple fruit?

- A. Fig
- B. Bread fruit
- C. Apple
- D. Pineapple

The correct answer is option [C].

19. Which one of the following is not a dicotyledonous seed?

- A. Okra

- B. Pride of Barbados
- C. Balsam
- D. Flame of the forest

The correct answer is option [D].

20. Which of the following statements is true about fertilization?

- A. One chromosome from the male joins another from the female.
- B. One gene from the male combines with another from the female.
- C. The male nucleus fuses with the female nucleus.
- D. One set of chromosomes combines with another set.

The correct answer is option [C]

21. An example of a dry dehiscent fruit is _____.

- A. cola
- B. palmnut
- C. coconut
- D. groundnut

The correct answer is option [A].

22. One main function of the amniotic fluid in pregnant women is to _____.

- A. protect the foetus against shock
- B. remove waste products from the foetus
- C. supply food and water to foetus
- D. carry oxygen to the foetus

The correct answer is option [A]

23. In a drupe only the ____ and ____ are fleshy. . A. mesocarp and endocarp

- B. epicarp and mesocarp

- C. epicarp and endocarp
- D. none of the above

The correct answer is option [B].

24. Which one is not an example of a cypsela?

- A. Emilia
- B. Tridax
- C. Obeche
- D. Eupatorium

The correct answer is option [C].

25. The process of transferring pollen grains from the anthers of one flower to the stigma of the same flower is called _____.

- A. cross pollination
- B. self-fertilization
- C. self pollination
- D. cross fertilization

The correct answer is option [C].

26. In grasshopper/cockroach, digestion starts in the _____.

- A. oesophagus
- B. crop
- C. gizzard
- D. midgut

The correct answer is option [D]

27. The splitting of the pericarp to liberate seeds is a characteristic of _____.

- A. dry indehiscent fruits

- B. dry dehiscent fruits
- C. succulent fruits
- D. none of the above

The correct answer is option [B].

28. When is the best time to test for the presence of starch in a leaf?

- A. Before sunrise
- B. At sunrise
- C. At midday
- D. immediately after sunset

The correct answer is option [D]

Since photosynthesis utilizes the sun's energy, the presence of starch would most easily be detected after sufficient sunlight exposure.

29. The ____ develops from the embryo and makes contact with the uterine wall.

- A. umbilical cord
- B. placenta
- C. allantois
- D. amnion

The correct answer is option [A]

The umbilical cord supplies nourishment to the embryo and removes its wastes.

30. What is the effect of suboptimal temperature on the rate of germination?

- A. Increase
- B. No effect
- C. Retardation
- D. None of the above

The correct answer is option [C].

31. Which of the following describes an example of fertilization in higher organisms?

- A. Fusion of sperm and egg nuclei.
- B. Ejaculating of sperm into a female body.
- C. Male gametes germinating in the pollen tube.
- D. A pollen grain landing on a sticky stigma.

The correct answer is option [A]

32. Silk cotton tree is pollinated by _____.

- A. wind
- B. water
- C. birds
- D. bats

The correct answer is option [D].

33. All of the following are agents of pollination except_____.

- A. wind
- B. sunlight
- C. animals
- D. water

The correct answer is option [B].

34. The jointed structure in insects that bears organs which are sensitive to touch, smell and vibration is the _____.

- A. maxilla
- B. labium
- C. antenna
- D. abdomen

The correct answer is option [C]

35. Coconut seeds and water lilies are examples of seeds dispersed by ____.

- A. wind
- B. water
- C. man
- D. bird

The correct answer is option [B].

36. Which of the following is not an adaptation of wind-dispersed fruits and seeds?

- A. Small and light body
- B. Spongy coats
- C. Turfs of hairs
- D. Wings on pericarp

The correct answer is option [B]

37. In plants, ____ is a structure which develops from the ovule after fertilization.

- A. embryo
- B. seed
- C. cotyledon
- D. plumule

The correct answer is option [B].

38. In mammalian males, the excretory and reproductive systems share the ____.

- A. ureter
- B. vas deferens
- C. urethra
- D. testes

The correct answer is option [C]

The urethra is the common urinogenital duct that conducts both sperms and urine to the outside.

39. One of the disadvantages of cross pollination is that _____.

- A. it leads to less production of seeds
- B. it produces unhealthy seeds and fruits
- C. pollen grains are likely to be wasted during the process
- D. the seeds produced gradually develops into weaker plants

The correct answer is option [C].

40. An example of caryopsis is _____.

- A. guava
- B. maize grain
- C. coconut
- D. tomato

The correct answer is option [B]

A dry, one-seeded, indehiscent fruit with the seed coat fused to the pericarp.

41. A _____ is a dry indehiscent fruit containing one seed and possessing a hairy pappus.

- A. nut
- B. drupe
- C. cypsela
- D. follicle

The correct answer is option [C]

42. An achene with pericarp fused with the testa is called ____.

- A. nut
- B. cypsela
- C. samara
- D. caryopsis

The correct answer is option [D].

43. Self-pollinated flowers are _____.

- A. bisexual
- B. unisexual
- C. dioecious
- D. none of the above

The correct answer is option [A].

43. Fruits are classified into _____.

- A. simple, multiple and aggregate
- B. simple, multiply and aggregate
- C. multiply and aggregate
- D. simplify and multiply

The correct answer is option [A].

44. The ____ is located in the mammalian abdominal cavity just below the diaphragm and lying on top of the stomach.

- A. bladder
- B. intestine
- C. liver
- D. pancreas

The correct answer is option [C]

45. A flowering plant having both the male and female flowers on the same plant is said to be ____.

- A. regular
- B. monoecious
- C. irregular
- D. dioecious

The correct answer is option [B]

46. Which of the following is not a characteristic of wind dispersed fruits and seeds?

- A. Light weight
- B. Wing
- C. Floss
- D. Sticky juice

The correct answer is option [D]

47. Which one of the following has epigeal germination?

- A. Maize grain
- B. Cowpea seed
- C. African yam bean seed
- D. All of the above

The correct answer is option [B].

48. In plant breeding, artificial pollination can result in ____.

- A. production of healthy crops
- B. improvement of crop variety
- C. susceptibility of crops to diseases
- D. delayed crop maturity

The correct answer is option [B]

49. The germination in which the cotyledons are carried above the soil is known as ____ germination.

- A. epigeal
- B. hypogeal
- C. embryo
- D. none of the above

The correct answer is option [A].

50. The process by which the embryo of a seed grows out of its testa and develops into a seedling is known as ____.

- A. fertilisation
- B. planting
- C. germination
- D. fusion

The correct answer is option [C].

51. The process by which insects undergo conspicuous changes in form and appearance during development is known as ____.

- A. ecdysis
- B. metamorphosis
- C. aestivation
- D. migration

The correct answer is option [B]

TOPIC: SENSE ORGANS

DIRECTION: Choose the correct answer from the lettered options.

1. The taste of delicious food is detected by the _____ of the tongue.

- A. mechanoreceptors
- B. photoreceptors
- C. chemoreceptors
- D. thermoreceptors

The correct answer is option [C]

2. The eyeball is a _____ filled hollow structure.

- A. water
- B. fluid
- C. blood
- D. air

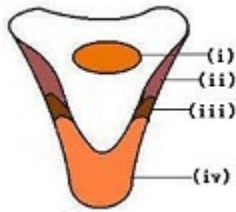
The correct Answer is option [B].

3. If you press a ruler against your skin, you feel pressure and the sense of ____.

- A. pain
- B. touch
- C. heat
- D. stings

The correct answer is option [B].

4. From the diagram, what taste does the part labelled (ii) perceive?



- A. Sweet
- B. Sour
- C. Bitter
- D. Salt

The correct answer is option [B].

5. The outer ear consists of the _____, _____ and _____.

- A. pinna, auditory meatus, tympanic membrane
- B. ear lobe, ear wax, ear liquid
- C. pinna, ear tube, wax
- D. organ of hearing, talking, thinking

The correct Answer is option [A].

6. The temperature receptors in the skin are of _____ types.

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

The correct answer is option [A].

They are cold and warm.

7. The function of the ear as a sense organ is hearing and ____.

- A. loudness
- B. listening
- C. balance
- D. feeling

The correct answer is option [C].

8. Which one of the following is not a part of the mammalian ear?

- A. External ear
- B. Labyrinth
- C. Meatus
- D. Tympanum

The correct answer is option [C].

9. The inability of some individuals to perceive the smell of some substances is an example of _____.

- A. physiological adaptation
- B. physiological variation
- C. morphological variation
- D. morphological adaptation

The correct answer is option [B]

10. The eye defect caused by uneven curvature of the cornea or lens or both is known as _____.

- A. myopia
- B. presbyopia
- C. astigmatism
- D. hypermetropia

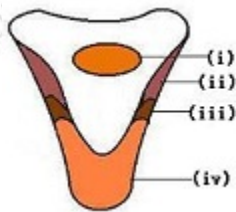
The correct answer is option [C].

11. Which one of the following does not cause deafness?

- A. Wax
- B. Syphilis
- C. Head injuries
- D. Vaccinations

The correct answer is option [D].

12. The diagram shown is that of the _____.



- A. teeth
- B. tongue
- C. ear
- D. nose

The correct answer is option [B].

13. Which of the following best explains why it is difficult to see clearly in dim light?

- A. Initially the eye cannot operate when the light is dim.
- B. The choroid reflects all the light that enters the eye.
- C. Too little light reaches the retina and so the cones may not be stimulated enough.
- D. Dim light causes the pupil to close up so that not much light enters the eye.

The correct answer is option [C]

14. The outward bending of parallel light rays from distant objects before falling on the eyeball is called _____.

- A. converging
- B. blurring
- C. diverging
- D. all of the above

The correct answer is option [C].

15. Which one of the following is not a sense receptor?

- A. Touch receptor
- B. Pain receptor
- C. Heat receptor
- D. Hugs receptor

The correct answer is option [D].

16. From the diagram, what taste does the part labelled (i) perceive?

- A. Sweet
- B. Sour
- C. Bitter
- D. Salt

The correct answer is option [C].

17. The nose senses smell by means of ____.

- A. olfactory chemoreceptors
- B. nociceptors
- C. photoreceptors
- D. thermoreceptors

The correct Answer is option [A].

18. Receptors that respond to pressure are located _____.

- A. deep in the skin
- B. on the skin surface
- C. just immediately after the top layer of the skin
- D. above the head

The correct answer is option [A].

19. The sensory nerve endings of the nasal chamber join together to form olfactory nerve that goes to the olfactory lobe of the _____.

- A. brain
- B. nose
- C. eye
- D. ear

The correct answer is option [A].

20. _____ separates the middle ear from the outer ear.

- A. Fenestra ovalis
- B. Eustachian
- C. Eardrum
- D. Stapes

The correct answer is option [C].

21. Hypermetropia is an eye defect also known as _____.

- A. short-sightedness
- B. long-sightedness
- C. myopia
- D. presbyopia

The correct answer is option [B].

22. Inside the membranous labyrinth is a fluid called _____.

- A. endolyte
- B. endolymph
- C. perilymph
- D. perilyte

The correct answer is option [B].

23. Which one of the following is not a sense organ?

- A. Skin
- B. Nose
- C. Brain
- D. Tongue

The correct answer is option [C].

24. If you prick your skin with a needle, what sensation will you feel?

- A. Pressure sensation
- B. Touch sensation
- C. Pain sensation
- D. Heat sensation

The correct answer is option [C].

25. One function of the iris of the mammalian eye is _____.

- A. closing and opening of the eyes
- B. absorbing dangerous rays from sunlight
- C. regulating the amount of light entering the eye
- D. bringing light rays to focus on the retina

The correct answer is option [C]

26. The sclera or sclerotic layer is also called the _____ of the eyes.

- A. white
- B. grey
- C. brown
- D. blue

The correct Answer is option [A].

27. The retina of the eye is a _____ that receives electromagnetic stimuli.

- A. thermoreceptors
- B. mechanoreceptor
- C. chemoreceptor
- D. photoreceptor

The correct Answer is option [D].

28. Long-sightedness can be corrected by using a _____ lens.

- A. convex
- B. concave
- C. glasses with uneven curvature
- D. any of the above

The correct answer is option [A].

29. The part of the ear known as tympanum is also called the _____ ear.

- A. middle
- B. outer
- C. inner
- D. none of the above

The correct answer is option [A].

30. _____ stimulates nerve endings in the tongue.

- A. Food substances
- B. Water
- C. Chemical substances
- D. Juicy substances

The correct answer is option [C].

31. The outer ear is made up of the pinna and the _____.

- A. auditory nerve
- B. auditory canal
- C. muscles
- D. malleus

The correct answer is option [B].

Look at the diagram carefully and answer the question.

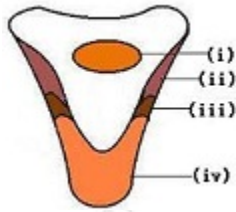
32. What part of the body is this?



- A. The eye
- B. The nose
- C. The ear
- D. The fingers

The correct Answer is option [C].

33. From the diagram, what taste does the part labelled (iv) perceive?



- A. Sweet
- B. Sour
- C. Bitter
- D. Salt

The correct answer is option [A].

34. Which one of the following receptors do we have in the skin?

- I Heat receptor
- II Cold receptor
- III Warm receptors as temperature receptors

- A. I and III only
- B. II and III only
- C. I, II and III
- D. I and II only

The correct answer is option [D].

35. Chemicals are stimuli of the nose and the _____.

- A. ear
- B. tongue
- C. eye
- D. skin

The correct answer is option [B].

36. Man has both day and night visions because they have both rods and _____ in the eye.

- A. optic nerves
- B. blind spot
- C. lens
- D. cones

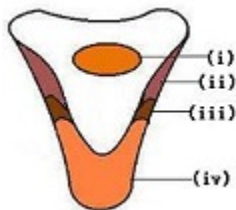
The correct answer is option [D].

37. The main sensory receptors of the body include _____, _____, _____ and _____.

- A. tasting receptors, sighting receptors, touching receptors, hearing receptors,
- B. mechanoreceptors, chemoreceptors, photoreceptors, thermoreceptors
- C. eye, nose, skin, ear
- D. None of the above

The correct answer is option [B]

38. From the diagram, what taste does the part labelled (iii) perceive?



- A. Sweet
- B. Sour
- C. Bitter
- D. Salt

The correct answer is option [D].

39. Thermoreceptors are found in the _____.

- A. tongue

- B. ear
- C. skin
- D. nose

The correct Answer is option [C].

40. In the skin, there are _____ sense receptors.

- A. 3
- B. 4
- C. 6
- D. 5

The correct answer is option [D].

The five sense receptors in the skin are pain, heat, cold, touch, and pressure receptors.

41. Pepper irritates the whole tongue and causes a burning sensation because it contains _____.

- A. taste
- B. flavour
- C. chemicals
- D. none of the above

The correct answer is option [C]

42. The mammalian ear consists of _____ parts.

- A. 2
- B. 3
- C. 4
- D. 6

The correct answer is option [B].

43. The stimulus of the sense organ "eye" is _____.

- A. shadow
- B. darkness
- C. light
- D. brightness

The correct answer is option [C].

44. The layer of light-sensitive cells in the human eye is called the _____.

- A. cornea
- B. sclerotic layer
- C. retina
- D. conjunctiva

The correct answer is option [C]

45. Ear stones are known as _____.

- A. otoliths
- B. corti
- C. sacculus
- D. coiled cochlea

The correct answer is option [A].

46. For clear vision, the vitamins that could be taken is _____.

- A. vitamin C
- B. vitamin D
- C. vitamin E
- D. vitamin A

The correct answer is option [D].

47. Taste bud opens to the surface of the tongue by _____.

- A. air
- B. saliva
- C. pores
- D. inlets

The correct answer is option [C].

48. A taste bud has a _____ shape.

- A. curve
- B. round
- C. oval
- D. flask

The correct answer is option [D].

49. Rods are sensitive to dim light and _____.

- A. bright coloured vision
- B. dark coloured vision
- C. colourless vision
- D. colourful vision

The correct answer is option [C].

50. Which of the following taste receptors is not correctly matched with the taste it perceives?

- A. Tip-sweet
- B. Back-bitter
- C. Back-sour
- D. Side-sour

The correct answer is option [C]

51. The three bones of the middle ear are called ear _____.

- A. bones
- B. windows
- C. skeleton
- D. ossicles

The correct answer is option [D].

52. Within the cavity of the middle ear is a chain of three tiny bones called _____, _____ and _____.

- A. malleus, incus, stapes
- B. pharynx, hammer, anvilis
- C. incus, stirrups, hammering
- D. stapes, stirring, anvil

The correct answer is option [A]

53. In the eye, the cornea is a continuation of the _____.

- A. blind spot
- B. conjunctiva
- C. sclera
- D. retina

The correct Answer is option [C].

54. The amount of light rays entering the eye is regulated by the _____.

- A. lens
- B. retina
- C. pupil
- D. iris

The correct answer is option [C].

55. Human beings have _____ major sense organs.

- A. 4
- B. 6
- C. 5
- D. 3

The correct answer is option [C].

They include the: ear, eye, nose, skin and tongue

TOPIC: VARIATION IN POPULATION

DIRECTION: Choose the correct answer from the lettered options.

1. Termites are called social insects because ____.

- A. the nests are built by the nasute soldiers
- B. they live together in communities
- C. the queen allocates duties to the workers
- D. the king and queen mate

The correct answer is option [B]

2. Blood groups and tongue rolling are examples of ____.

- A. continuous variation
- B. discontinuous variation
- C. variation due to environment
- D. adaptive variation

The correct answer is option [B]

In discontinuous variation, there are sharp differences between the various forms of a given feature.

3. Which of the following is an example of continuous variation?

- A. Human blood groups
- B. Sex differences in humans
- C. Haemoglobin types
- D. Height in humans

The correct answer is option [D]

Height in humans is a continuous variation because height is expressed as a graduation from short to tall.

4. The major types of man's fingerprints do not include ____.

- A. arch
- B. whorl
- C. simple
- D. loop

The correct answer is option [C]

5. An example of morphological variation is ____.

- A. blood group
- B. height
- C. ability to roll the tongue
- D. behavioural pattern

The correct answer is option [B].

6. Which of the following human characteristics are discontinuous variations?

- I. Complexion
- II. Height
- III. Blood Rhesus factor
- IV. Ability to roll the tongue

- A. I & III
- B. II & III
- C. II & IV
- D. III & IV

The correct answer is option [D]

Discontinuous variations show no intermediate forms. There are sharp differences between the various forms of a given feature.

7. One application of variation is in ____.

- A. determining the size and weight of individuals
- B. determining paternity
- C. conservation of wildlife
- D. controlling of disease vectors

The correct answer is option [B]

Variation caused by inherited characters such as blood groups, eye colour and the ability to roll tongue or to taste PTC, can be used to determine paternity.

8. Which of the following scientists discovered the Rhesus factor in human blood?

- A. Hooke and Lavine
- B. Darwin and Landsteiner
- C. Landsteiner and Wiener
- D. Hooke and Darwin

The correct answer is option [C]

9. People without antigens on their red blood cells belong to blood group ____.

- A. A
- B. AS
- C. BB
- D. O

The correct answer is option [D].

10. Which set of characters can be expressed phenotypically?

- I. Complexion
- II. Height
- III. Blood Rhesus factor
- IV. Colour blindness

- A. I & II
- B. I, II & IV
- C. I, III & IV
- D. I, II & III

The correct answer is option [B]

Phenotypically expressed characters are physically observable.

11. _____ is an application of physiological variation.

- A. Finger print pattern
- B. Hair colour
- C. Height measurement
- D. Detection of paternity

The correct answer is option [D].

12. Which of the following variations is applicable to a weight lifter?

- A. Absolute variation
- B. Discontinuous variation
- C. Hereditary variation
- D. Acquired variation

The correct answer is option [D]

Acquired variation results from environmental factors, thus the characteristics are not passed on to offspring. For example, the children of a weight lifter would not be muscular except they train to build muscles.

13. Which of the following is not a finger print classification?

- A. Arch
- B. Loop
- C. Whorl
- D. Tented arc

The correct answer is option [D].

14. In sex determination, the XY chromosome comes from the ____.

- A. female
- B. male
- C. both parents
- D. male child

The correct answer is option [B].

15. Morphological variation can clearly be seen in ____.

- A. weight
- B. skin colour in man
- C. height
- D. all of the above

The correct answer is option [D].

16. Which of these structural features is adapted for only water conservation?

- A. Succulent stems
- B. Scales in animals
- C. Spines in plants
- D. Feathers in birds

The correct answer is option [A]

17. What are the applications of variations?

- A. Blood transfusion
- B. Crime detection
- C. Determination of paternity
- D. All of the above

The correct Answer is option [D].

18. When oil is poured into the breeding site of mosquitoes, it ____.

- A. deprives the larvae of water
- B. kills the adults
- C. suffocates the pupae
- D. slows down egg development

The correct answer is option [C]

Pouring oil into the breeding site (standing water) causes the surface of the water to be covered by an oil film. This prevents oxygen supply, thereby causing the pupae to suffocate.

19. Variation may be grouped into ____ types.

- A. 2
- B. 4
- C. 5
- D. 11

The correct Answer is option [A].

20. Which of the following is not a continuous variation?

- A. Heights of plants
- B. Weight
- C. Ability to roll tongue
- D. Foot length

The correct answer is option [C]

In continuous variation, features vary gradually from one extreme form to the other.

21. Which of the following is not a continuous variation?

- A. Colour of skin
- B. Size of the individual
- C. Ability to roll the tongue
- D. Height of the person

The correct answer is option [C].

22. The two types of variations are ____ and ____ variation.

- A. chemical, physiological
- B. morphological, physiological
- C. morphological, physical
- D. anatomical, biological

The correct Answer is option [B].

23. Group instinct or social behaviour is not displayed in _____.

- A. soldier ants
- B. bees
- C. chickens
- D. weaver birds

The correct answer is option [C]

24. A food chain always begins with a _____.

- A. decomposer
- B. saprophyte
- C. carnivores
- D. producer

The correct answer is option [D]

25. A feature of the caste system of bees and termites is that _____.

- A. the workers also perform reproductive functions
- B. the drones are always bigger than the queen
- C. the workers perform housekeeping duties
- D. the queen dies immediately after the first sting

The correct answer is option [C]

26. A permanent change in gene is called _____.

- A. mutation
- B. gene drift
- C. X-factor
- D. mutant X

The correct Answer is option [A].

27. Two factors that can cause variation are _____.

- A. heredity factors and anti-heredity factors
- B. genetic differences and influence from the environment
- C. blood group differences and polymorphic changes
- D. inter-ethnic differences and various individual experiences

The correct Answer is option [B].

28. An Amoeba and an unlaidd chicken egg are _____.

- A. animal tissues
- B. organelles
- C. single cells
- D. organisms

The correct answer is option [C]

29. The division of labour in social insects is an example of ____.

- A. structural adaptation
- B. physiological adaptation
- C. commensalism
- D. behavioural adaptation

The correct answer is option [D]

30. Variation between individuals are of _____ kinds.

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

The correct answer is option [B].

31. Two pairs of genes, ABAB for the black race and abab for the white race when crossed will give a hybrid of _____.

- A. ABab
- B. AaBb
- C. BbAa
- D. AbaB

The correct answer is option [A].

32. What is the significance of the bee dance to other bees?

- A. Warning signal
- B. Presence of food
- C. Mating signal by the male
- D. Scaring the enemies away

The correct answer is option [B]

33. The boomerang shaped beaks of flamingoes have slits adapted for _____.

- A. scooping mud and sieving it
- B. picking seeds and worms
- C. grasping slippery water animals
- D. sucking nectar from flowers

The correct answer is option [A]

34. A person's finger print when taken by the police is stored in a _____.

- A. finger bank
- B. storage bank
- C. prints bank
- D. memory bank

The correct answer is option [D].

35. Which one of the following features is used in crime detection?

- A. Blood group
- B. Skin colour
- C. Finger print
- D. Genotype

The correct answer is option [C].

36. Which one of the following is not a type of blood group?

- A. A
- B. B
- C. C
- D. O

The correct answer is option [C].

37. If a cross is made between a pure-breeding red flowered plant and a pure-breeding white flowered plant where R is dominant for red flower and r is recessive for white, the most likely result of F1 generation will be?

- A. 75% red flowers and 25% white flowers
- B. All red flowers
- C. 75% white flowers and 25% red flowers
- D. 50% red flowers and 50% white flowers

The correct answer is option [B]

The zygotes produced would contain one allele for red flower colour (R) and one for white flower (r). Since R is dominant and r is recessive, the F1 generation would only have red flowers.

38. A person's ability to taste phenylthiocarbamide as bitter or tasteless is an example of _____ variation.

- A. continuous
- B. morphological
- C. irregular
- D. discontinuous

The correct answer is option [D].

39. Human finger print is a _____ trait.

- A. phenotypic
- B. genotypic
- C. cycloptic
- D. none of the above

The correct answer is option [A].

40. Which of these is not a hereditary variation?

- A. Infant paralysis
- B. Blood group
- C. Sickle cell
- D. Shape of face and nose

The correct answer is option [A]

41. Features that show variations are often a blend of inherited and acquired characteristics.

- A. True
- B. False

The correct answer is option [A].

42. Variations cannot be applied to _____.

- A. crime detection
- B. blood group
- C. identity marks between organisms
- D. diseases of organisms

The correct answer is option [D].

43. Which of the following options make up the bee caste?

- A. Soldiers and queen
- B. Drones, soldiers and workers
- C. Queen, soldiers and workers
- D. Drones, queen and workers

The correct answer is option [D]

44. A variation where there are sharp differences between the various forms of a given feature is called _____.

- A. continuous variation
- B. discontinuous variation
- C. stable variation
- D. unstable variation

The correct Answer is option [B].

45. During blood transfusion, agglutination could be prevented if a patient having blood group O is given blood from group _____.

- A. AB

- B. A
- C. O
- D. B

The correct answer is option [C]

46. Variations that determines the physical appearance of a person is known as _____ variation.

- A. physiological
- B. discontinuous
- C. morphological
- D. none of the above

The correct answer is option [C].

47. Which one of the following blood groups is a general donor?

- A. B
- B. O
- C. AB
- D. B+

The correct answer is option [B].

48. Which of the following is an example of discontinuous variation?

- A. The height of a pear plant
- B. Sex of an offspring
- C. The colour of a pear plant
- D. The adult body weight

The correct answer is option [B]

The sex of an offspring is either male or female with no intermediate forms, thus it is a discontinuous variation. However, the remaining options vary gradually from one extreme to another.

49. Antigen A in the red blood cell has _____ antibody in plasma.

- A. B
- B. A
- C. A + B
- D. O

The correct answer is option [A].

50. The type of variation in which a given feature shows gradual transition between two extreme forms is called _____ variation.

- A. discontinuous
- B. formal
- C. continuous
- D. different

The correct answer is option [C]

51. An individual with blood group AB can receive blood from those in blood group(s) _____.

- A. AB only
- B. A and B only
- C. B only
- D. A, B, AB and O

The correct answer is option [D]

52. Agglutination occurs in blood transfusion when the _____.

- A. antigen and antibody from the donor and recipient reacts
- B. same antibodies from donor and recipient fuse together to form a lump
- C. donor and recipient belong to different races

D. recipient is not a universal recipient but a universal donor

The correct answer is option [A]

53. What is variation in population?

A. Individual differences within a species.

B. Heridity within a lineage.

C. Various growth levels.

D. Inheritance of special characteristics.

The correct Answer is option [A].

54. Even though some flowering plants contain accessory pigments, which give them colours, they still contain the pigment _____.

A. melanin

B. chlorophyll

C. xanthophyll

D. carotene

The correct answer is option [B]