**1** Genealogy:

*Choose one of the options:*

a. involves the study of gene structure

b. addresses the issue of evolution

c. **involves compiling pedigree charts**

d. involves genetic mapping

**2** Nematodes (*Nematoda*) are evolutionary progenitors of:

*Choose one of the options:*

a. reptiles

b. **they do** **not have developmental sequel**

c. tubifex worm

d. leech

**3** Digestive system planarians:

*Choose one of the options:*

a. are developed only in predatory forms

b. are entirely through

c. are **bag-like and blind-ended**

d. are not developed

**4** Syphilis (syphilis) in human causes:

*Choose one of the options:*

a. RNA viruses

b. DNA viruses

c. protozoan (*Trypanosoma equiperdum*)

d. **bacteria (*Treponema pallidum*)**

**5** The default type for the current domestic breeds of pigeons:

*Choose one of the options:*

*a. Columba palumbus*

*b. Columba oenas*

*c. Streptopelia turtur*

*d.* ***Columba livia***

**6** A border that unites two distinct ecosystems is called:

*Choose one of the options:*

a. an ecotope

b. an ecotype

c. a biome

d. an **ecotone**

**7** Lungwort (*Pulmonaria officinalis*) and *Echium vulgare* belong to the family:

*Choose one of the options:*

*a. Brassicaceae*

*b. Ranunculaceae*

*c****. Boraginaceae***

*d. Caryophyllaceae*

**8** Which of the following plants have C4 photosynthesis cycle:

*Choose one of the options:*

a. **maize**

b. wheat

c. rice

d. oat

**9** Nyctinasia, or sleep movement, is a plant movement

*Choose one of the options:*

**a. in response to daylight cycles,**

b. in response to a tactile stimulus.

c. in response to stimuli such as light

d. in response to gravitational stimuli.

**10** Mouflon is a kind of:

*Choose one of the options:*

**a. sheep**

b. goats

c. cattle

d. horses

**11** Molluscs (*Molluscidae*) belong to:

*Choose one of the options:*

a. **an invertebrates**

b. a mammals

c. a bird

d. a fish

**12** *Rhizocarpon geographicum* is:

*Choose one of the options:*

a. moss

b. **lichen**

c. fern

d. conifer

**13** Among the parasitic mites invading bee broods is:

*Choose one of the options:*

a. *Acarus apis*

b. ***Varroa jacobsoni***

c. *Dermanissus mellificae*

d. *Sarcoptes apis*

**14** Polarity is:

*Choose one of the options:*

a. manifestation of dormancy

b. manifestation of photosynthesis

c. **manifestation of unity**

d. manifestation of vernalization

**15** Small (pulmonary) circulating blood progresses:

*Choose one of the options:*

a. **from the right ventricle to the lungs and back to the left atrium**

b. from the left ventricle to the lungs and back into the right atrium

c. from the right ventricle to the lungs and back into the right atrium

d. from the left ventricle to the lungs and back to the left atrium

**16** Chromosomes in eukaryotic cells:

*Choose one of the options:*

a. are circular in structure

b. simultaneously contain DNA and RNA

c. **are linear and contain the DNA linked to the nucleus histones**

d. are in the nucleus evident throughout the cell cycle

**17** The cuticle belongs to the tissue system:

*Choose one of the options:*

a. basic

b. vascular bundles

c. **covering**

d. stock

**18** Larvae of butterflies are:

*Choose one of the options:*

a. white grubs

b. nymphs

c. cordyceps

d. **caterpillars**

**19** The function of mitochondria in eukaryotic cells is:

*Choose one of the options:*

a. protein synthesis

b. the strength of the cell wall

c. **synthesis of ATP**

d. distribution and transport functions

**20** The important textile of raw cotton is obtained from:

*Choose one of the options:*

a. the hairs on the leaves of the cotton plant

b. from the phloem of the vascular bundles of cotton

c. **the hairs on the seeds of the cotton plant**

d. the wood of the vascular bundles of cotton

**21** Sharks belong to:

*Choose one of the options:*

a. invertebrates

b. amphibians

c. **elasmobranch fish**

d. fish

**22** Heritability (heritability) means:

*Choose one of the options:*

a. **the proportion of genetic variation in the total phenotypic variability quantitative traits**

b. the ability to transfer properties to the descendants unchanged

c. the share of external influences on phenotypic variability of quantitative traits

d. enhancing the viability of the offspring compared to the viability of parents

**23** Parenchyma is:

*Choose one of the options:*

a. a solid vascular tissue in the phloem of vascular bundles

b. reinforcing tissue with evenly thickened cell walls

c. reinforcing tissue with the cell walls unevenly thickened

d. **tissue cells which have thin cell walls**

**24** The term habitat means:

*Choose one of the options:*

a. biotic and abiotic environment communities

b. **abiotic environment communities**

c. the transitional habitat between communities

d. biotic environment of the community

**25** Garlic (*Allium sativum*) is among the plants of:

*Choose one of the options:*

a. gymnosperms

b. pteridosperms

c. dicotyledonous

d**. monocotyledonous**

**26** Mergansers (*Mergus* sp.) belong to:

*Choose one of the options:*

a. Arthropods

b. Fish

c. **Birds**

d. Mammals

**27** Short-day plants bloom:

*Choose one of the options:*

a. **when photoperiod less than 12 hours**

b. in permanent darkness

c. when photoperiod longer than 12 hours

d. under continuous light

**28** Chorda dorsalis is the:

*Choose one of the options:*

a. dorsal vessel

b. **notochord**

c. dorsal lobe

d. dorsal stripe

**29** Representatives of the families of sedges (*Cyperaceae*) are characterized by:

*Choose one of the options:*

a. the absence of flowers

b. a square stalk

c. a caryopsis - kernel

d. **a triangular stem**

**30** Branched limbs are the hallmark for:

*Choose one of the options:*

a. **Crustaceans**

b. Millipedes

c. Insect

d. Chelicerata

**31** Plant growth is characterized by:

*Choose one of the options:*

a. **dividing cells and increasing cell length**

b. only activity of meristems

c. increasing the cell nucleus

d. differentiation

**32** The water content in seeds is:

*Choose one of the options:*

a. **5–15 %**

b. 50 %

c. 60–75 %

d. up to 90 %

**33** Nitrogen may be supplied to the soil in the form of:

*Choose one of the options:*

a. kieserite

b. ground limestone

c. superphosphate

d. **urea**

**34** Spiders have what kind of vascular system:

*Choose one of the options:*

a. closed

b. rudimentary

c. diffusion

d. **open**

**35** Lateral roots arise from the:

*Choose one of the options:*

a. endodermis

b. the outer layer of the primary cortex

c. the epidermis (rhizodermis)

d. **pericycle**

**36** Down's syndrome in humans develops as a result:

*Choose one of the options:*

a. trisomy of chromosome 13

b. chemical affecting individuals during embryonic development

c. monosomy of chromosome 12

d. **grouping of three chromosomes 21 at the time of formation of the zygote**

**37** Introns are:

*Choose one of the options:*

a. a part of the genes of viruses

b. **non-coding part of eukaryotic genes**

c. a part of prokaryotic genes

d. coding part of eukaryotic genes

**38** Cytoskeleton in eukaryotic cells:

*Choose one of the options:*

a. is unvarying structure

b. is formed as fibers chromosomes

c. is formed as vacuole and tonoplast

d. **is formed by a dynamic structure of cells**

**39** Gender (sex) in domestic cats is determined by gonosomes assembly as follows:

*Choose one of the options:*

a. XX male, YY female

b. **XY male, XX female**

c. YY male, XX female

d. XX male, XY female

**40** Meristematic tissue provides:

*Choose one of the options:*

a. nutrition of the plant body

b. the strength of the plant body

c. protection of the plant body

d. **the growth of the plant body**

**41** Malarial seizures, manifested by high fever followed by chills, causes:

*Choose one of the options:*

a. **Plasmodium metabolites released into the blood**

b. knifing mosquitoes of the genus Anopheles

c. the disintegration of white blood cells

d. disintegration of liver tissue

**42** Sponges (*Porifera*) are divided into groups according to their skeleton composition:

*Choose one of the options:*

a. calcium silicate and strontium

b. calcium, horny and spiny

c. **calcium, silica and horny**

d. silica, strontium and carbonate

**43** The secondary phase (dark phase) of photosynthesis takes place:

*Choose one of the options:*

a. in the endoplasmic reticulum

b. **in the chloroplast stroma**

c. in mitochondria

d. in the Golgi apparatus

**44** The symplastic path moves water and dissolved therein mineral nutrients:

*Choose one of the options:*

a. only the cell wall and the tonoplast

b. only the cell wall and intercellular spaces

c. **via protoplast cells**

d. through hydathode

**45** Rotifers (*Rotatoria*) are:

*Choose one of the options:*

a. part of rumen microflora

b. terrestrial mites

c. water beetles

d. **part of the zooplankton of lakes and ponds**

**46** The membrane separates the cytoplasm from the vacuole is called:

*Choose one of the options:*

a. cytoplasmic membrane

b. **tonoplast**

c. matrix

d. thylakoid

**47** Useful bioregulators include both larvae and adults of Beatles:

*Choose one of the options:*

a. *Dermestidae*

b. *Elateridae*

c. *Curculionida*e

d. ***Coccindelidae***

**48** Crows belong to the birds:

*Choose one of the options:*

a. *Falconiformes*

b. *Charadriiformes*

c. ***Passeriformes***

d. *Gruiformes*

**49** Dragonflies (*Odonata*) are divided into two suborders:

*Choose one of the options:*

a. *Zygoptera* and *Coeangrionidae*

b. *Coeangrionidae, Anisoptera* and *Aeschnidae*

c. *Zygoptera* and *Anisoptera*

d. ***Aeschnidae* and *Libellulidae***

**50** Photophilous plants are called by the term:

*Choose one of the options:*

a. cryophile

b. heliosciophile

c. sciophile

d. **heliophile**