SECTION I: 2015 BIOLOGY ENTRANCE MOCK EXAMS

MAJOR/MINOR

MOCK EXAM ONE

BIOLOGY

For each question, select the best answer and record your choice on the Response Form provided. Using a blue pen, completely star the box that has the letter corresponding to your answer you must submit your question paper together with the response Form. Nothing should be written on the question paper.

1. The retrovirus manufactures its DNA in the host from
a) Bacterial DNA b) Viral RNA c) RNA mode in the cytoplasm d) Viral DNA
2. During interphase (during mitosis)
a) The genetic material doubles
b) The chromosomes are seen as district corpuscles under the light and electron microscopes
c) The cell contains sufficient energy reserves to ensure mitosis goes to the end
d) Two of the above are correct
e) All three propositions are correct
f) None of the above
3. Organs which function in the process of excretion include. Encircle the best answer
a) Liver Lungs b) Sweet gland c) Lungs d) Spleen d) Kidneys e) Typhoid
4. When studying the physiologic properties of a neurone, we realize that
a) The movement of the nerve influx along the axon after natural stimulation in cellulifugal
b) The average action potential is between 60 an 80 milli volts and last one millionth of a second
c) The action potential gotten by two receptor electrodes is translated on the oscilloscope as a diphasic wave.
d) At rest, the membrane is polarized, the outside being negative and the inside positive.

e) None of the above

5. Polysomia and polyploidy (trisomy21) are mutations affecting the number of chromosomes. We talk of polysomia when

a) The number of chromosomes is doubled.
b) There are one or more additional chromosomes.
c) A chromosome is lacking
d) Two homologous chromosomes are lacking
e) None of the above

6. What is called “mode” in a sequence distribution?

a) It is the greatest frequency
b) It is the product obtained by multiplying the greatest frequency by the greatest value of the variable
c) It is smallest frequency
d) It is the value of the variable with the highest frequency

7. Crossing over is

a) The formulation of Mendel’s first law
b) An accidental exchanges of fragments of chromosomes during metosis
c) It breaks in a chromatides during mitosis
d) The separation of chromatides during mitosis

8. Simple mitosis of a cell with 16 chromosomes gives

a) Two cells with 8 chromosomes each
b) Two cells with 16 chromosomes each
c) Four cells with 8 chromosomes each
d) Of an ovule by sperm cell

9. Identical twins comes from the fertilization

a) Of an ovule by two sperm cells
b) Of two ovules by two sperm cells simultaneously
c) Of two ovules by two sperm cell successively
d) Of an ovule by a sperm cell

10. A nucleotide is made up of

a) Phosphoric acid, a pentose and an organic base
b) A pentose, RNA and DNA
e) An organic base and phosphoric acid
f) A phosphate, an ore and a nitrogen base

11. we talk of double fertilization in spermatophytes because

a) The two antherozoides provided by the pollen tube both intervene
b) The two nuclei of the pollen grain intervene
c) The two central nuclei of the embryo sac are fertilized at the same time

d) Two zygotes are formed at the end of this process.

12. About spermatophytes

a) All the ovaries are multicapaillary

b) Double fertilization occurs between an antherixoide and an oosphore which is the female gametophyte.

c) During sexual reproduction, accidents could occur in the distribution of chromosomes. The phenomena are sources of few phenotypes

d) The oosphore is found only toward the chalazion pole of the ovule

13. For a given specie, a cycle is said to be diplophasic when

a) The haploid phase does not exist during the development of individuals of the species

b) The haploid phase exists but is dominated by the diploid phase.

c) Fertilization is immediately followed by reduction mitosis of the zygote

d) The adult individual is diploid and lives as such the maximum of its time and fertilization

14. In parasexually, a piece of chromosome of the donating bacterium can multiply along in the cytoplasm of the receptor. True or False

15. Peptide bonds are made between

a) An amino acid and a sugar

b) An amino acid and nucleic acid

c) An amino acid and a peptide acid

16. Cone cells intervene in what kind of visions

a) In week light b) In strong light c) In the dark d) Extra-fovea vision

17. The reproduction of living beings through the development of a female gamete is called

a) Androgenetic b) Gynogenetic c) Pathogenetic d) Parthenogenetic.

18. The potential action

a) Is a brief modification of the resting potential, which is propagated continuously on all nerve bribres.

b) Has constant amplitude during its propagation along the excited nerve fibre

c) Is characterized by an increase in the trans-membrane electric potential

d) Its frequency does not depend on the intensity of stimulation of the nerve fibre

19. A gonosomal

a) Has no chance of affecting a boy whose maternal uncle is affected

b) Only affected a boy if his mother is a carrier of the responsible allele

c) Is more frequent among girls than above

d) Correspond to the expression of a dominant or recessive allele carried by the x chromosome and absent on the y chromosome.

20. Summation

a) Is modification of the phenotype

b) Is always a local accident that affects only one chain

c) Is automatically transmitted to the descendants
d) Is a rare event that has only one chance out of a billion of affecting the copy of a replicated gene.

21. All the mechanisms through which a nerve cell develops a response to the different stimuli which it is subjected is called.
    a) Summation b) Spatial summation c) Temporal summation d) Assumption
22. In the cell, Golgi body intervenes in
a) Protein synthesis b) Protein catalysis c) Protein storage d) Protein metabolism
23. In a granulocyte, lysosomes are produced by
a) Mitochondria b) Vacuoles c) Ribosome d) Dictyosome
24. Nucleotide is made up of
a) A pentose RNA and DNA
b) An organic base and phosphoric acid base
c) Phosphoric acid, a pentose and an organic
d) A phosphoric, a sugar and a nitrogen
25. Leydig cells secrete
a) Follicule stimulating hormones b) Oestrasoil c) Testosteronce d) Proiactine