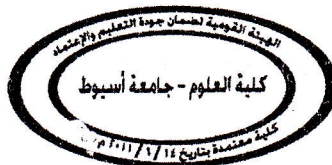




Assiut University  
Faculty of Science  
Zoology Department



Final exam General Zoology  
2/6/2024  
(6) pages



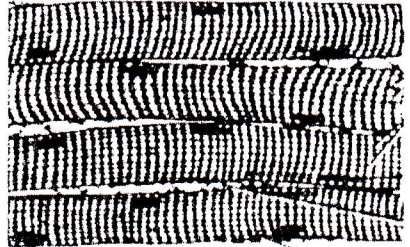
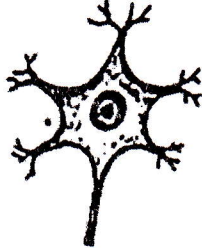
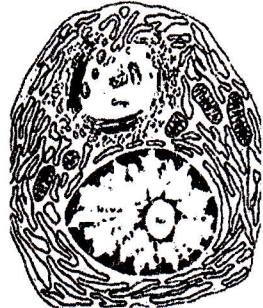
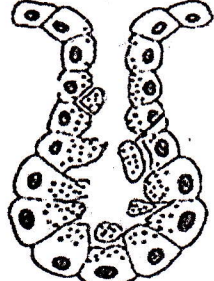
Time: 2 hours  
Level: First  
Course Code: 100Z  
Marks: 50

**(Q1): Choose the best single correct answer (30 marks, 1/2 mark for each)**

1	Before cell division, the centrioles ..... Themselves. a) duplicate                      b) triplicate                      c) divide                      d) migrate
2	On the outside of the cell membrane, .....attached to some proteins and lipid. a) cholesterol                      b) receptors                      c) channels                      d) chain of sugar
3	The cell membrane is made of mix of proteins and ..... a) carbohydrates                      b) glycoproteins                      c) lipids                      d) lipoproteins
4	The transport in which larger materials are enter or exit from the cells is called ..... a) diffusion                      b) massive transport                      c) passive transport                      d) active transport
5	The lipid give the cell membranes their ..... a) conductivity                      b) permeability                      c) movement                      d) flexibility
6	Glycoproteins make as ..... on the cell membrane. a) pores                      b) receptors                      c) skeleton                      d) fibers
7	The nucleus is surrounded by two membranes, together known as ..... a) nuclear membranes                      b) nuclear body                      c) nuclear envelope                      d) nucleolus
8	The proteins that stay in the cytosol are made by: a) bound ribosomes                      b) free ribosomes                      c) RER                      d) SER
9	The ..... membrane of mitochondria form folds which are called cristae: a) inner                      b) outer                      c) ATP                      d) intermediate
10	The tales of phospholipid molecules are known as: a) hydrophilic                      b) lipophilic                      c) hydrophobic                      d) lipophobic
11	The ..... molecules make the cell membrane less permeable and decrease flexibility. a) cholesterol                      b) carbohydrate                      c) lipid                      d) glycoproteins

12	In the liver..... are responsible for neutralizing toxins. a) RER                      b) SER                      c) Golgi bodies                      d) lysosomes
13	Lysosomes contain ..... to breakdown waste materials. a) glycoproteins              b) ATP energy              c) digestive enzymes              d) all of them
14	..... is the movement of molecules against their concentration gradient. a) passive transport      b) facilitated diffusion      c) simple diffusion              d) active transport
15	Golgi receives newly made proteins and lipids from ..... a) microtubules              b) cytosol                      c) ER                      d) mitochondria
16	..... epithelium is a cellular sheet formed of one layer of cells. a) Stratified                  b) Simple                      c) Transitional                  d) Glandular
17	The cell membrane of muscle fibers is known as..... a) sarcolemma                  b) sarcoplasm                  c) axolemma                      d) axoplasm
18	The .....tissue is formed of cells, fibers and matrix. a) connective                  b) epithelial                      c) muscular                      d) nervous
19	The .....is the structural and functional unit of the nervous system. a) muscle fiber                  b) neuroglia                      c) matrix                      d) neuron
20	In .....epithelium, the superficial cells may change temporarily into squamous cells. a) simple                      b) stratified                      c) transitional                      d) glandular
21	.....are responsible for muscle contractions. a) Microtubules              b) Myofibrils                  c) Microfilaments                  d) intermediate filaments
22	.....cells produce histamine and heparin. a) Mast                      b) Plasma                      c) Fat                      d) Lymph
23	The axon is surrounded with a membrane known as..... a) axolemma                  b) plasmalemma                  c) sarcolemma                      d) axoplasm
24	Epithelium rests on a .....which may be clear or non-clear. a) cell membrane              b) muscle fibers                  c) basement membrane                  d) reticular fibers
25	..... adipose tissue contains primarily one large lipid droplet. a) Yellow                      b) White                      c) Brown                      d) Red



26	.....is the covering layer of bone from outside.	
	a) Endosteum                      b) Perichondrium                      c) Periosteum                      d) Plasmalemma	
27	The figure refers to: a) smooth muscles                      b) cardiac muscles c) reticular fibers                      d) skeletal muscles	
28	The figure refers to: a) stellate-shape neuron                      b) nerve cell c) multipolar neuron                      d) all of them	
29	The figure refers to: a) Mast cell                      b) Plasma cell c) Lymphocyte                      d) Melanocyte	
30	The figure refers to: a) Apocrine gland                      b) Merocrine gland c) Holocrine gland                      d) Cellular gland	
31	Which one of the following is <u>NOT</u> an acoelomate?	a) Platyhelminthes                      b) Cestoda                      c) Nematoda                      d) Turbellaria
32	Which of the following is deuterostome animals	a) Molluscs                      b) Annelids                      c) Echinodermata                      d) Arthropoda
33	..... are the cells that phagocytize food in sponges	a) Choanocytes                      b) Archaeocytes                      c) Pinacocytes                      d) Sclerocytes

34	In chordates the nerve cord is a)Hollow and dorsal    b)Hollow and ventral    c)Solid and ventral    d)Solid and dorsal
35	By home was the five kingdom classification of living organisms presented? a) Ray    b) Aristotle    c) Linnaeus    d) Whittaker
36	All arthropods are characterized by the following EXCEPT a) Jointed appendages    b) Exoskeleton c)Open circulatory system    d) Presence of three pairs of legs
37	The symmetry in cnidarians is a) Radial    b) Bilateral    c) Asymmetrical    d)Both a and b
38	Nephridia of Earthworms has the same function as a) Gills of fishes    b) Nematocytes of Cnidarians c) Flame cells of Planaria    d) Archaeocytes of sponge
39	The three domain system includes a) Archaeobacteria – Eubacteria – Protista    b) Archaea – Bacteria – Eukarya c)Fungi – Plantae – Animalia    d) Monera - Protista - Apicomplexa
40	Plasmodium malaria is a) Endoparasite    b) Ectoparasite    c) Ectoparasite    d) Both a and b
41	Which one of the following is <u>NOT</u> parasitic? a) Trematoda    b) Paramecium    c) Apicomplexa    d) Trypanosoma
42	Which of the following lives in lymphatic system and causes Elephantiasis a) Ascaris    b) Fasciola    c) Taenia saginata    d) Wuchereria bancrofti
43	Select the correctly written scientific name of housefly a) Musca domestica    b) <i>Musca domestica</i> c) Musca Domestica    d) musca domestica
44	Animals with metameric segmentation and closed circulatory system a) Arthropoda    b) Hirudina    c) Oligochaeta    d) Insecta
45	All platyhelminthes have incomplete digestive system EXCEPT a) Planaria    b) Fasciola    c) Shistosoma    d) Taenia
46	..... helps in maintaining immune system health and virus protection. a) Thyroxin    b) Adrenaline    c) Growth hormone    d) Melatonin



47	..... Increases skeletal muscle growth, as well as the red blood cell average. a) Aldosterone      b) FSH      c) Testosterone      d) Thyroxine
48	It is Playing an important role in maintaining pregnancy. a) LH      b) Estrogen      c) Progesterone      d) FSH
49	Gigantism is a disorder result from ..... a) Decrease in GH secretion before puberty      b) Increase in GH secretion after puberty c) Increase in GH secretion before puberty      d) Increase in Thyroxin secretion
50	Which of the following about Tetany is CORRECT? a) It results from hyperthyroidism.      b) It results from hypothyroidism. c) It results from hyperparathiorism.      d) It results from hypoparathiorism.
51	Which is the following age has the highest level of testosterone? a) 20 years      b) 30 years      c) 40 years      d) 50 years
52	Which one of the following hormones increased at stressful situations? a) Glucagon      b) Thyroxin      c) Aldosterone      d) None of them
53	.....the most important hormone in conserving body salts in hot environments. a) Thyroxin      b) GH      c) PTH      d) Aldosterone
54	It secreted from anterior pituitary and stimulates milk production. a) TSH      b) ACTH      c) Prolactin      d) FSH
55	Growth hormone regulates cartilage and bone growth which secreted from..... a) Anterior pituitary      b) Adrenal cortex      c) Adrenal medulla      d) Thyroid gland
56	..... is the process of the formation of female gametes. a) Gastrulation      b) Spermatogenesis      c) Organogenesis      d) Oogenesis
57	Isolecithal eggs present in ..... a) Mammals      b) birds      c) Arthropods      d) None of them
58	Twins with higher risk of complications during pregnancy ..... a) Dichorionic twins      b) Fraternal twins      c) Monoamniotic twins      d) Monochorionic twins
59	Sperm uses ..... in locomotion. a) Head      b) Neck      c) Middle piece      d) Tail
60	The division of a cell occurs twice in ..... a) Mitosis      b) Meiosis      c) both a & b      d) None of them

**(Q2): Choose (T) if the statement is true and ( F) if it is not (20 marks, 1 mark for each)**

61	The microfilaments are made of tubulin protein.
62	The DNA in prokaryotic cells is linear.
63	The membranous organelles participate directly in cellular metabolism.
64	The ribosomes are formed in the nucleus.
65	Both glycolipids and glycoproteins together form the cell coat.
66	Bone is a firm, rigid, flexible and dense type of connective tissue poor in blood supply.
67	The neuroglia forms the supporting tissue between the neurons of the C. N. S.
68	Cardiac muscles contract spontaneously.
69	Tissue is a group of cells which perform common or related functions.
70	Connective tissue covers a surface or lines a cavity or forms a gland.
71	In chordates the direction of blood flow in both dorsal and ventral blood vessels is backward
72	Hydra is characterized by the presence of nerve net
73	Similar orders belong to the same class
74	Gastrovascular cavity often branched or divided with septa in Hirudo
75	Urochordates which are filter feeders are phylum
76	Deficiency of iodine in food and water causes Cushing syndrome
77	Gastrula is a three-layered embryo
78	Four divisions are required to go from a zygote at 64 cell embryo stage
79	Oxytocin initiates uterine contraction during childbirth
80	ADH is secreted from posterior lobe of pituitary gland

*With Our best wishes*

*Drs./ Gamal El-Sokkary, Safaa Megally, Hanan Waly & Alshaimaa Alghriany*





Answer these questions:

- Q1- Answer by  $\sqrt$  or X for these sentences: (25 marks, one mark each)
- 1- Phospholipids are compound lipids containing fatty acids, alcohol, phosphoric acid and often a nitrogenous base. like, cephaline, .....( )
  - 2-Fats enter in synthesis of some hormones. Ex. sex hormones, adrenocortical hormones (aldosterone and cortisol.). .....( )
  - 3- Excess of vitamin C leads to the deposition of calcium salts in soft tissues such as kidney and ureter stones. ....( )
  - 4- Roughness and dryness of mucous membrane of the urinary tract, genital tract, gastrointestinal tract in response of vitamin E deficiency. ....( )
  - 5- New pyramid associates between the food pyramid and the physical activity of the person..... ( )
  - 6-Antibrowning agents of non enzymatic browning of some foods is prevented by adding sulphur dioxide which in turn may destroy vitamin B in the foods..... ( )
  - 7-The high amount of lipids in the body causes great leptin production, ( )
  - 8-Leptin decreases metabolic rate and decreases appetite in humans. ... ( )
  - 9-Dietary fibers decrease stool weight and decreasing gut transit time and meat slows down the transit time..... ( )
  - 10-Additives can improve taste and flavouring as well as it improve texture..... ( )
  - 11-One role of the antimicrobial additives is for more safety of food and prevent the growth of microorganisms..... ( )
  - 12- Vitamin C deficiency did not affect wound healing and caused osteoporosis..... ( )
  - 13-Soluble fibers, include beans, nuts, flax seed, peas, some vegetables and fruits. (act as a colloidal mixture in intestine)..... ( )
  - 14- Both vitamins C and K is a powerful antioxidants in the body cells..... ( )
  - 15- Many people view overeating and obesity is showed as a response to negative emotions, such as anger, sadness, or boredom. ....( )
  - 16- Snacks cause obesity due to reduced complex carbohydrates & fiber and high fruits and vegetables. ....( )
  - 17- Excess of vitamin D leads to the deposition of calcium salts in soft tissues such as kidney and ureter stones. ....( )
  - 18-Derived lipids include Cholesterol, sex hormones, cortisone, vit. D. ( )
  - 19- Obesity in adult is more dangerous illness than in children. ....( )

- 20- Gastric diseases may cause deficiency of the intrinsic factor which normally facilitates the absorption of vitamin B12 by the intestine leading to Pernicious anemia. .... ( )
- 21- The Deficiency in the dietary fats may lead to deficiency A,D,E and K vitamins in the body..... ( )
- 22- Vitamin C deficiency causes scurvy disease with gums become swollen, tender and bleed easily. The teeth become loose and may fall..... ( )
- 23- Resistance to ghrelin has been found in obese humans. .... ( )
- 24- Fats act as a pad for the internal organs to protect them from outside shocks such as liver. .... ( )
- 25- Lesions of the hypothalamus are associated with excessive eating tendency leading to obesity. .... ( )

Q2- MCQ: Choose the appropriate letters A,B,C or D.(10 Marks: one mark each):-

- 1- Dietary proteins provide the body with certain amino acids which can not be synthesized in the body, and these amino acids are:-  
 -A: Both essential and non-essential amino acids.  
 -B: Essential amino acids.  
 -C: Non-essential amino acids.  
 -D: All the above.
- 2-Edema disease can be induced in the case of shortage of:-  
 -A: Plasma fats.  
 -B: plasma protein  
 -C: RBCS.  
 -D: All the above.
- 3- Taking excess of certain vitamins in food may increase the probability of clot formation such as:-  
 -A: Vitamin K  
 -B: Vitamin C.  
 -C: Vitamin D  
 -D: Not the above.
- 4- Basal metabolic rate (BMR) is the rate of energy expenditure per unit time by endothermic animals at rest including processes such as:-  
 A: Breathing, blood circulation,  
 B: Controlling body temperature  
 C: Brain , nerve function, and contraction of muscles.  
 D: All of the above.
- 5- Snacks cause obesity due to:-  
 A: Its higher energy content.  
 B: Its reduced complex carbohydrates & fiber .  
 C: Its greater saturated fat.  
 D: All the above.
- 6- Functions of dietary fibers in the intestine include:-  
 A: It can have a satiating effect .



B:It increases total blood cholesterol.

C:It Prevents coronary heart disease and decreases total blood cholesterol.

D:All the above except B.

7- In the food pyramid:-

A: Replacing one food group with another is not permitted

B: Replacing one food group with another is permitted

C:Replacing food group by another with increasing meat and vitamin in the food.

D:Not the above.

8- Examples of preservatives antimicrobial preservatives:

A:Sodium benzoate.

B:Benzoic acid.

C:Nitrate.

D:All the above.

9- Functions of dietary fibers in the intestine include:-

A: It regulates peristaltic movements of the intestine.

B: It increases total blood cholesterol.

C: It Prevents coronary heart disease.

D: All the above except B.

10- Edema disease can be induced in the case of a decrease of:-

-A: Plasma fats.

-B: plasma protein

-C: RBCS.

-D: All the above except C.

Q3- Answer five questions only: (15 marks: 3 marks each)

1-Discuss the Functions of dietary fibers in intestine? 6 items

2-What are the biological significance of nutritional proteins? (5 items).

3-Compare between the following according to deficiencies of: Vitamin E, Potassium, iodine and Vitamin B1.

4-Identify anemia and What the causes of iron deficiency anemia? 4 items

5-What are the disadvantages of additives? 6 items.

6- What are the functions of saliva on digestion? 5 items.

With my best wishes and great success,

Professor Dr. Mohamed Bassam Al-Salahy Elbradei