



Assiut University
Zoology Department
First term Final Exam 2023/2024
Course title: healthy feeding. (URO13)

Faculty of Science
Time: two hours
January 2024

Answer these questions:

Q1- Answer by \sqrt or X for these sentences: (20 marks, one mark each)

- 1-Monosaccharides are the most prevalent and there are several types, such as glucose, fructose and galactose. ()
- 2-After meal, part of absorbed glucose converted into liver to glycogen (may reach over 200g) ().
- 3-The lipids consider the second source of energy (25 % of body needs) : ()
- 4-Citric acid can not prevent antibrowning agents of enzymatic browning for some fruit or vegetables..... ()
- 5-One role of nitrate as additive is to prevent gas formation. Ex. Nitrate is used in the production of cheese to prevent gas formation by butyric acid-forming bacteria.... ()
- 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 higher 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 over-eat and obesity in response to negative emotions, such as anger, sadness or boredom..... ()
- 16- Carbohydrates composed of carbon, hydrogen, oxygen and the last two exist as their presence in water. ()
- 17- Fats act as a pad for the internal organs to protect them from outside shocks. ()

- 18- Vitamin A participates in epithelial glycoprotein synthesis and this protects the mucosa of urogenital tract, respiratory tract... ect. ().
- 19- Bile salts also did not act as bactericides, destroying many of the microbes that may be present in the food. ().
- 20- Fatty acid oxidation (β -Oxidation) is carried out in several stages and in each stage two carbon atoms are separated with energy. called beta-oxidation of the carbon atom β -Oxidation. ().

Q2- Choose the appropriate letters A, B,C or D. (15 Marks: one mark each):-

: (15 marks, one for each)

1- The photosensitive pigment found in rods in the retina of the eye called rhodopsin or visual purple which synthesized by the help of :

- A: Vitamin B12
- B: Vitamin B1
- C: Vitamin A
- D: Not 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-Excess of vitamin K in food leads to increase of probability of clot formation particularely in blood-disease patient and example of this vitamin is:-

- A: Vitamin K
- B: Vitamin C.
- C: Vitamin D
- D: Not the above.

4-Deficiency of vitamin D leads to:

-A: Bowed legs and deformity of the thorax and sternum (like "pigeon chest).

B: Rickets in young children : bowed legs and deformity of the thorax and sternum (like "pigeon chest).

- C: Osteomalacia in adults softening of skeleton due to demineralization
- D: All the above.

5- Ghrelin hormone secretion:-

A: Ghrelin secreted from stored fats.

B: Ghrelin secreted from gastric wall and pancreas during hungry.

C: Ghrelin secreted from intestine.

D:All the above.

6- 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.
- 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- 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.
- 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- Examples of simple proteins are:-
-A: Albumin Globulin and Cholesterol
-B Albumin, Globulin, and Gelatin
-C: Albumin, Globulin, phospholipids and Cephaline
-D: Albumin, Globulin, Collagen and lipids
- 11- 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.
- 12- There are factors affecting basal metabolic rate BMR such as:-
A: Diet - Severe calorie restriction reducing BMR.
B: Increased body temperature will elevate basal metabolic rate.
C: Food type - carbohydrates increase BMR.
D: All the above except C.
- 13- The smallest part of human small intestine is:
-A: Duodenum.
-B: Jejunum.
-C: Ilium.
-D: All the above.
- 14- The examples of compound proteins include:
-A: Albumin, globulin, collagen and gelatin
-B: Nucleoprotein, Chromoprotein, heparin and Phosphoprotein
-C: Collagen, Gelatin, heparin and Phosphoprotein
-D: All the above.

15- The smallest group (servings) in the old food pyramid in size and weight is:

A:Vegetables and fruits

B:Bread, cereals, rice and pasta

C:Butter, cream, margarine, sugars, sweets

D:Meat, birds, fish,

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

1-Discuss the Functions of dietary fibers in intestine? 5 items

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

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

4-Define the basal metabolic rate? What are the factors affecting BMR? (6 items).

5-What are the Advantages of additives? 5 items.

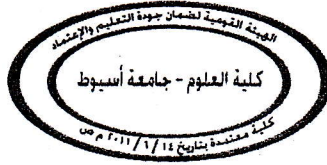
6- What are the functions of saliva on digestion? 5 items.

With my best wishes and great success,

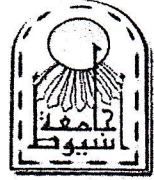
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Final exam General Zoology
22/1/2024
(6) pages



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

(Q1): Choose the best single correct answer (30 marks, one mark for each)

1	The protein is the precursor of microfilaments. a) tubulin b) fibrin c) collagen d) actin
2	The DNA is in eukaryotic cells. a) linear b) circular c) cluster d) patch
3	At the beginning of mitosis the centrioles themselves. a) divide b) duplicate c) migrate d) do not move
4	The chain of sugar attached to some proteins and lipid a) inside the cell membrane b) inside the pores c) on the channels d) outside of the cell membrane
5	The membranous organelles participate in cellular metabolism. a) membranous b) non-membranous c) directly d) all of them
6	The cell membrane is made of mix of proteins and a) carbohydrates b) glycoproteins c) lipids d) lipoproteins
7	The movement of larger materials to or out the cell is called a) massive transport b) active transport c) passive transport d) all of them
8	The responsible for the cell membrane flexibility. a) proteins b) carbohydrates c) minerals d) lipids
9	..... is formed of many layers of cells one above the other. a) Simple epithelium b) Stratified epithelium c) Adipose tissue d) Blood
10	..... are modified to contract. a) Myoepithelial cells b) Glands c) Neurons d) adipocytes
11	..... stretches and recoils to bring tissue back to normal shape. a) Elastic fibers b) Yellow fibers c) Collagenous fibers d) a & b

12	.....are present on the outer surfaces of the acini of sweat, salivary and mammary glands. a) Mast cells b) Adipocytes c) Plasma cells d) Myoepithelial cells
13	..... rests on a basement membrane which may be clear or non-clear. a) Connective tissue b) Epithelium c) Nervous tissue d) Cartilage
14	..... is the structural and functional unit of the nervous system. a) Glial cells b) The neuron c) Neuroglia d) Muscle fibers
15	.....neurons have short axons as neurons of Retina. a) Golgi Type 1 b) Motor c) Golgi Type 2 d) Astrocyte
16	..... is a firm, rigid, flexible and dense type of connective tissue poor in blood supply. a) Bone b) Muscle c) Vertebra d) Cartilage
17	Genus in zoology represents a) Individual animal b) A group of closely related families of animals c) A group of closely related species of animals d) More than one of the above
18	Nematocysts are characteristic for phylum a) Nematode b) Platyhelminthes c) Cnidaria d) Porifera
19	Which one of the following reproduces asexually by Gemmule formation? a) Cnidaria b) Porifera c) Protozoa d) Monera
20	<i>Plasmodium malaria</i> belongs to a) Ciliates b) Flagellates c) Apicomplexa d) Nematode
21	Deuterostomes means a) Mouth origin is blastopore b) Anus origin is archenteron c) Mouth origin is coelom d) Anus origin is blastopore
22	The three domain system is a) Archaeobacteria – Eubacteria – Protista b) Archaea – Bacteria – Eukarya c) Fungi – Plantae – Animalia

	d) Monera - Protista - Apicomplexa
23	Turbellaria characterized by presence of a) Coelome b) Pseudocoelom c) Nerve net d) Flame cells
24	..... responsible for secreting testosterone. a) Adrenal gland b) Interstitial cells c) Both (a & b) d) None of them
25	One of the following is considered as steroid hormone. a) Insulin b) Thyroxin c) Testosterone d) Epinephrine
26	The female secondary sex characteristics induced by during puberty. a) LH b)FSH c) Progesterone d) Estrogen
27	Specialized cells play a major role in regulating blood glucose. a) Leydig cells b) Beta cells c) F cells d) Cells of adrenal medulla
28	Exophthalmic goiter is a disorder results from a) Hypothyroidism in children b) Increase in parathyroid hormone c) Hypothyroidism in adults d) Hyperthyroidism in adults
29	..... is a potent antioxidant with anti-aging and anti-cancer properties. a) Thyroxin b) Adrenaline c) Melatonin d) Growth hormone
30	Which of the following about anterior pituitary gland is <u>CORRECT</u>? a) Secrets hormones less than posterior pituitary. b) Releases the antidiuretic hormone (ADH). c) Secrets oxytocin d) None of them

(Q2): Choose the best single correct answer (20 marks, 1/2 mark for each)

31	Glycoproteins make as on the cell membrane a) pores b) receptors c)skeleton d)fibers
32	In the nucleus, the .....is formed of two membrane units. a) nucleolus b) DNA c) nuclear envelope d) chromatin
33	The ribosomes are formed in: a)nucleolus b) nucleus c) cytoplasm d) endoplasm
34	The proteins that made by free ribosomes are a)stay in the nucleus b)stay in the cytoplasm c)stay in RER d)secreted by the cell

	The membrane of mitochondria form folds which are called cristae. a) inner b) outer c) ATP d) intermediate
36	The hydrophilic part of the phospholipid molecules are known as..... a) heads b) lipophilic c) tales d) lipophobic
37	Both glycolipids and glycoproteins form the a) cell membrane b) cellular organelles c) both A and B d) cell coat
38	The molecules make the cell membrane less permeable and decrease flexibility. a) cholesterol b) carbohydrate c) lipid d) glycoproteins
39	In the liver, SER are responsible for neutralizing toxins in the a) kidney b) liver c) brain d) heart
40	..... contain digestive enzymes to breakdown waste materials. a) mitochondria b) Golgi body c) lysosomes d) SER
41	The axon is surrounded with a membrane known as..... a) sarcolemma b) plasmalemma c) axolemma d) axoplasm
42	According to presence or absence of ducts, glands are classified into..... a) merocrine, apocrine, holocrine glands b) endocrine, exocrine, mixed glands c) serous, mucous, fatty secretory glands d) tubulo, Acinar, tubulo-acinar glands
43	..... contract spontaneously. a) Cardiac muscles b) Neurons c) Skeletal muscles d) Striated muscles
44	..... is a calcified osteoid tissue rich in blood supply with a solid matrix. a) Cartilage b) Collagenous fiber c) Reticular fiber d) Bone
45	The form the supporting tissue between the neurons of the C. N. S. a) connective tissue b) neuroglia c) blood d) lymph
46	The cell membrane of muscle fibers is known as..... a) axolemma b) sarcoplasm c) axoplasm d) sarcolemma
47	..... are responsible for bone resorption during ossification. a) Osteoclast cells b) Osteocytes c) Osteoblasts d) Osteogenic cells
48	..... have the ability to secrete antibodies for immunity. a) Plasmacells b) Melanocytes c) Mast cells d) Reticular cells

49	..... are not present in axon and not present near the nuclear or cell membranes of neuron a) Nissl granules b) Mitochondria c) Lysosomes d) Fat droplets
50	.....contains primarily many small lipid droplets. a) White adipose tissue b) Brown adipose tissue c) Nervous tissue d) Muscular tissue
51	..... are the cells that specialized in food digestion in sponges a) Choanocytes b) Archaeocytes c) Pinacocytes d) Sclerocytes
52	The excretory system of Class Hirudina consists of a) Flame cells b) Nephridia c) Nematocytes d) Kidneys
53	In the invertebrates the nerve cord is a) Hollow and dorsal b) Hollow and ventral c) Solid and ventral d) Solid and dorsal
54	Direction of blood flow in the ventral blood vessels in chordates is a- Backward (head - tail) b- Forward (tail - head) c- Forward (head - tail) d- Dorsal (tail -head)
55	Pramecium is a) Unicellular prokaryote b) Multicellular eukaryote c) Multinucleate eukaryote d) Both a and c
56	One of the following is NOT a character for insects a) Jointed appendages b) Exoskeleton c) Closed circulatory system d) Compound eyes
57	In the gastrovascular cavity often branched or divided with septa a) Protozoa b) Cnidaria c) Porifera d) Platyhelminthes

58	..... is Pseudocoelomate a) <i>Ascaris</i> b) <i>Planaria</i> c) <i>Fasciola</i> d) <i>Taenia</i>
59	Oligochaeta are worms that belong to phylum a) Platyhelminthes b) Nematoda c) Arthropoda d) Annelida
60	It includes about $\frac{3}{4}$ of all known animal species a) Platyhelminthes b) Nematoda c) Arthropoda d) <u>Annelida</u>
61	Type 1 diabetes mellitus usually develops a) Before the age of 40 b) At childhood c) After the age of 40 d) Both (a & b)
62	Which one of the following hormones has anti-inflammatory actions? a) Glucagon b) Thyroxin c) Aldosterone d) Cortisol
63	..... plays important role in calcium hemostasis. a) Thyroxin b) Calcitonin c) Cortisol d) Both (a& c)
64	It increases blood sugar and blood flow to heart and lungs during stress or fight. a) Cortisol b) Thyroxin c) Adrenaline d) Melatonin
65	Aldosterone is regulating the body's water and electrolyte balance secreted from..... a) Anterior pituitary b) Adrenal cortex c) Adrenal medulla d) Thyroid gland
66	..... is considered as the formation of male gametes. a) Gastrulation b) Spermatogenesis c) Organogenesis d) Oogenesis
67	Twins with higher risk of complications during pregnancy a) Dichorionic twins b) Fraternal twins c) Monoamniotic twins d) Monochorionic twins
68	Eggs of birds belong to.....type. a) Isolecithal b) Centrolecithal c) Telolecithal d) None of them
69	Daughter cells resulting from are diploid and genetically identical. a) Miosis b) Mitosis c) Both (a & b) d) None of them
70	Which part of sperm structure responsible for producing energy that it needs in its locomotion. a) Head b) Neck c) Middle piece d) Tail

With Our best wishes
Drs./ Gamal El-Sokkary, Safaa Megally, Hanan Waly & Alshaimaa Alghriany