



Assiut University
Faculty of Science
Zoology Department



second-term General Zoology
17/6/2022
(6) pages



Time: 2 hours
Level: First
Course Code: 100Z
Marks: 60

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

- 1- The microfilaments are made of protein.
a) Fibrin b) Tubulin c) Collagen d) Actin
- 2- The DNA in prokaryotic cells is
a) Linear b) Circular c) Cluster d) Patch
- 3- Before cell division, the centrioles Themselves
a) Duplicate b) Triplicate c) Migrate d) Divide
- 4- On the outside of the cell membrane,attached to some proteins and lipid
a) Cholesterol b) Receptors c) Channels d) Chain of sugar
- 5- The membranous organelles participate in cellular metabolism
a) Directly b) Indirectly c) Internally 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 transport in which larger materials are entering or exit from the cells is called
a) Diffusion b) Massive transport c) Passive transport d) Active transport
- 8- The lipid give the cell membranes their
a) Conductivity b) Permeability c) Movement d) Flexibility
- 9- The reticular lamina secreted by Tissue.
a) Muscular b) Connective c) Epithelial d) Nervous
- 10- Stratified cuboidal epithelium is present in.....
a) Urinary bladder b) Esophagus c) Respiratory tract d) Graffian follicles

11- Desmosomes are made up of

a) An integrin

b) A cadherin

c) Connexins

d) An actin

12- Goblet cells of intestinal epithelium are example of

a) Unicellular glands

b) Endocrine gland

c) Exocrine gland

d) a and c

13-is a type of exocrine glandular epithelium which based on their mode of secretion.

a) Simple gland

b) Tubular gland

c) Alveolar gland

d) Holocrine gland

14- Gap, tight and adhering junctions are found in.....

a) Epithelial tissue

b) Connective tissue

c) Muscular tissue

d) Neural tissue

15- Which of the following is lack blood vessels and nerves?

a) Bone

b) Hyaline cartilage

c) Areolar C.T

d) Striated muscles

16-is a type of connective tissue that contains numerous collagen fibers and few cells provides a strong connection between the tissues.

a) Dense C.T

b) a and c

c) Dense Regular C.T

d) Loose C.T

17- Which of the following is the correct scientific name for a house cat?

a) felis domesticus

b) Felis Domesticus

c) felis Domesticus

d) *Felis domesticus*

18- Rank the following terms from simplest to most complex

a) Species, Genus, Family, Class, Order, Phylum, Kingdom

b) Species, Genus, Family, Order, Class, Phylum, Kingdom

c) Kingdom, Phylum, Class, Order, Family, Genus, Species

d) Kingdom, Phylum, Order, Class, Family, Genus, Species

19- Classified animals according to their way of living, their habitat and their body parts

a) Linnaeus

b) Ray

c) Aristotle

d) Whittaker

20- Group of organisms that can interbreed and produce fertile offspring

a) Family

b) Class

c) Genus

d) Species

21- In chordates the internal cavity of the nerve cord is known as the

a) Spinal cord

b) Central rachis

c) Central canal

d) Coelenterata

22- In; mouth develops from the blastopore on the anterior end.

a) Eubacteria

b) Archaeobacteria

c) Deuterostome

d) Protostomes

23- Reproduce asexually by fission, budding and cysts formation and sexually by conjugation

a) Parazoa

b) Eumetazoa

c) Protozoa

d) Mesozoa

24- Deficiency of iodine in food and water causes

a) Goiter

b) Gigantism

c) Diabetes

d) Obesity

- 25- Homeostasis is controlled by -----
 a) Hormones b) Nervous system c) a & b d) None of them
- 26- is a potent antioxidant with anti-aging properties.
 a) TSH b) Melatonin c) LH d) Thyroxine
- 27- Which of these hormones regulate sugar in the blood?
 a) Adrenalin b) Insulin c) Glucagon d) Both b and c
- 28- stimulates milk production.
 a) Oxytocin b) Prolactin c) MSH d) FSH
- 29- One of the following is different from others
 a) Pituitary b) Thyroid c) Adrenal d) Pancreas
- 30- Decreasing of GH secretion ↓ GH in children leading to.....
 a) Dwarfism b) Acromegaly c) Gigantism d) Goiter

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

- 31 - Glycoproteins make as on the cell membrane
 a) Pore b) Receptors c) Skeleton d) Fibers
- 32- The nucleus is surrounded by two membranes, together known as
 a) Nuclear membranes b) Nuclear body c) Nuclear envelope d) Nucleolus
- 33- The ribosomes are formed in:
 a) Nucleolus b) Nucleus c) Cytoplasm d) Endoplasm
- 34- The proteins that stay in the cytosol are made by:
 a) Bound ribosomes b) Free ribosomes c) RER d) SER
- 35- The membrane of mitochondria form folds which are called cristae:
 a) Inner b) outer c) ATP d) Intermediate
- 36- The tails of phospholipid molecules are known as:
 a) Hydrophilic b) Lipophilic c) Hydrophobic d) Lipophobic
- 37- Both glycolipids and glycoproteins together form what is called:
 a) Cell membrane b) Mitochondrial membrane c) Phospholipid bilayer 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, are responsible for neutralizing toxins.
 a) RER b) SER c) Golgi bodies I d) lysosomes
- 40- Lysosomes contain to breakdown waste materials.
 a) Glycoproteins b) ATP energy c) Digestive enzymes d) All of them
- 41- Compact bone tissue is composed of and forms the external layer of all bones.
 a) Collagen protein b) Osteoid protein c) Actin protein d) Myosin protein
- 42- The main function of connective tissue is.....
 a) Binding together other tissues b) Supporting various parts of the body
 c) Forming a packing around organs d) All of them
- 43- Connective tissue is.....
 a) Ectodermal in origin with intercellular spaces b) Mesodermal in origin without intercellular spaces
 c) Mesodermal in origin with intercellular spaces d) Ectodermal in origin without intercellular spaces
- 44- The main difference in white and yellow fibers is of.....
 a) Protein b) Color of the fibers c) Both a and b d) None of them
- 45- Which of the following is not correct?
 a) The brown adipose tissue cell has a single large droplet, whereas the white adipose tissue cell has many small droplets of fat.
 b) Brown fat cells contain many mitochondria, while white fat cells have comparatively few.
 c) Brown fat has a larger capacity for generating heat than white fat.
 d) UCP1, is a unique mitochondrial membranous protein found in Brown fat.
- 46- The cell membrane of the muscle fiber is known as
 a) Nucleoplasm b) Sarcolemma c) Sarcoplasm d) Nuclear envelops
- 47- Which of the following muscle cells is considered voluntary?
 a) Cardiac muscles b) Skeletal muscles c) Smooth muscles d) a and C
- 48- How much of the total body weight of an average adult is muscle tissue?
 a) Nearly 10% b) Nearly 3% c) Nearly 50% d) Nearly 100%
- 49-transmit motor information (impulses) from the CNS to the muscles and glands.
 a) Sensory neurons b) Association neurons c) Afferent neurons d) Motor neurons
- 50- The nervous tissue includes.....
 a) Both b and c b) Nerve cell c) Glial cells d) Blood
- 51- Its digestive system is incomplete with one opening and gastrovascular type
 a) Taenia b) Turbellaria c) Cnidaria d) Cestoda

- 52- In insects the 1st pair of wings is
- a) Cephalic b) Metathoracic c) Mesothoracic d) Prothoracic
- 53- Apicomplexa are
- a) Free living b) Endoparasites c) Exoparasites d) None of the previous
- 54- Classify animals on the bases of structures and published the current classification scheme.
- a) Ray b) Aristotle c) Linnaeus d) Whittaker
- 55- Class Polychaeta belongs to Phylum.....
- a) Platyhelminthes b) Annelida c) Nematoda d) Arthropoda
- 56- In phylum ciliophora micronuclei participate in.....
- a) Sexual reproduction b) Metabolic functions c) Developmental functions d) None of the previous
- 57- Multicellular, aquatic organisms with many pores
- a) Cnidaria b) Platyhelminthes c) Protozoa d) Porifera
- 58- Diploblastic animal with one opening into and out of gastrovascular cavity
- a) Hirudo b) Hydra c) Fasciola d) Sponge
- 59- With ladder form nervous system
- a) Cnidaria b) Arthropoda c) Nematoda d) Platyhelminthes
- 60- Nematodes are
- a) Acoelomates b) Pseudocoelomates c) Eucoelomates d) Coelomates
- 61- stimulates the thyroid gland to produce thyroxin.
- a) TSH b) Parathormone c) ADH d) Insulin
- 62- initiates uterine contraction during childbirth.
- a) FSH b) LH c) Estrogen d) Oxytocin
- 63- plays a role with calcitonin in calcium hemostasis.
- a) Thyroxin b) PTH c) ADH d) Adrenaline
- 64- Hyperthyroidism in adults leading to
- a) Cretinism b) Gigantism c) Mixdema d) Exophthalmic goiter
- 65- Cortisol secreted by and reduces inflammation.
- a) Pineal gland b) Pituitary gland c) Adrenal gland d) Thyroid gland
- 66- triggers the changes in a boy's body which turns him from a boy to a man.
- a) Estrogen b) Thyroxin c) Adrenalin d) None of them
- 67- Insulin secreted from
- a) Alpha cells b) Beta cells c) Delta cells d) None of them
- 68- stimulates the adrenal cortex to produce its hormones.
- a) FSH b) LH c) ACTH d) Insulin

- 69- is the final stage by which spermatids become spermatozoa.
 a) Spermatogenesis b) Oogenesis c) Organogenesis d) Spermiogenesis
- 70- The division of a cell occurs in meiosis.
 a) Once b) Twice c) Three times d) Four times

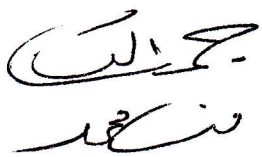
Oral part

Choose the best single correct answer **(10 marks one mark for each)**

- 71- is the movement of molecules against their concentration gradient.
 a) Passive transport b) Facilitated diffusion c) Simple diffusion d) Active transport
- 72- Golgi receives newly made proteins and lipids from
 a) Microtubules b) Cytosol c) ER d) Mitochondria
- 73- The neuron cell is made up of which of the following parts?
 a) Nucleus b) Dendrite c) Axon d) All of them
- 74- Neurons come in which different type(s)?
 a) Sensory b) Motor c) Skeletal d) Both a and b
- 75- Open circulatory system is present in
 a) Leeches b) Insects c) Arthropods d) All the previous
- 76- With ventral nerve cord
 a) Vertebrates b) Arthropods c) Cnidaria d) Porifera
- 77- Chordata characterized by the presence of which is a long flexible, rod-like supporting structure
 a) Nerve cord b) Spinal cord c) Notochord d) Post anal tail
- 78- egg has little yolk distributed uniformly through the egg cytoplasm.
 a) Telolecithal b) Isolecithal c) Centrolecithal d) None of them
- 79- is a hollow sphere of divided cells.
 a) Blastula b) Gastrula c) Morula d) None of them
- 80- Connective tissue originates from.....
 a) Ectoderm b) Endoderm c) Mesoderm d) None of them

Our best wishes

Drs./Gamal El-Sokkary, Safaa, Mona & Hanan



Assiut University
Faculty of Science
Zoology Department



University required
All levels
Time: two hours

Second term Final Exam 2021/1022 (June 2022)

Course title: Healthy feeding. (UR013)

Answer all the following questions :

First question - Answer by \checkmark or X for these sentences: (25 Marks: $\frac{1}{2}$ mark each):-

- 1- The third group of old food pyramid contains foods made of milk, and cheese, a rich source of calcium and beneficial for human growth. ()
- 2- Starch represent the major part of stored substances in the body , mainly in adipocytes: depot fats. ()
- 3- Sensitivity of leptin has been found in obese humans. ()
- 4- Gastric HCL stimulates duodenal mucosa to secrete gastrin hormone which reach to the pancreas to be stimulated to secrete pancreatic juice. ()
- 5- New pyramid associates between the food pyramid and the physical activity of the person. ()
- 6- Ghrelin hormone inhibits insulin secretion and stimulate bone formation. ()
- 7- Smoothness and softness of mucous membrane of the urinary tract, genital tract, gastrointestinal tract in response of vitamin A deficiency. ()
- 8- Vitamin E deficiency causes anaemia which may be due to decreased production of hemoglobin or hemolysis of RBCs (causes destruction of cell membrane). ()
- 9- Vitamin B12 has not an important role in the synthesis of myelin sheath of nerves. ()
- 10- Fats enter in synthesis of some hormones. Ex. sex hormones, adrenocortical hormones (aldosterone and cortisol.) and insulin. ()
- 11- The top of old food pyramid includes oils, butter, cream, margarine, sugars, sweets and used in medium quantity. ()
- 12- Both vitamins C and E is a powerful antioxidants in the body cells. ()
- 13- Pernicious anemia is failure of gastric mucosa to secrete intrinsic factor which facilitate B12 absorption. ()
- 14- Cones of the retina, are responsible for vision in bright and colored light and contain a photosensitive pigment called iodopsin)) ()
- 15- Vitamin K deficiency causes prolonged clotting time. ()
- 16- Vermiform appendix lies on the right side of the human body, and has small a role in food digestion. ()
- 17- Copper is important in the transport of oxygen where it enters in the composition of hemoglobin. ()
- 18- Skin exposed to sun light and becomes dry, rough and scaly with brown discoloration after Vitamin C deficiency (Nicotinic acid). ()
- 19- The artificial flavoring which used for giving meat flavor is carried out by adding of acetylpropionyl (Acetoin) with plant oil ()

- 20- Phosphorus deficiency leads to osteomalacia , irregular metabolism and affect on teeth growth. ()
- 21- The antioxidant additives are useful in preserving dry and frozen foods for an extended period of time. ()
- 22- Riboflavin (Vitamin B₂) deficiency leads to inflammation of angles of mouth and glossitis (inflammation of tongue). ()
- 23- Vitamin E participates in epithelial glycoprotein synthesis and this protects the mucosa of urogenital tract, respiratory tract... ect. ()
- 24- By body mass index equation, the man of 90 Kg body weight and length of 175 Cm , the obesity consider as an average weight. ()
- 25- Regular exercise Keeps basal metabolic rate (BMR) elevated at rest and the more muscle mass leads to more BMR. ()
- 26- Snacks cause obesity due to lower energy content and greater saturated fat. ()
- 27- Nicotine can decrease the basal metabolic rate (BMR) of men and women ()
- 28- Obesity in children is more dangerous illness than in adult. ()
- 29- Over-eating than body requirement of energy and diminished utilization of energy lead to obesity. ()
- 30- Vitamin D reduces the reabsorption of Ca²⁺ and phosphate in kidney ()
- 31- Disadvantages of additives include that some additives destroy nutrients e.g. sulphur dioxide destroys Vit. B, ()
- 32- Soluble fibers, include beans, nuts, flax seed, peas, some vegetables and fruits. (act as a colloidal mixture in intestine). ()
- 33- Browning color of some vegetable and fruit food products of non enzymatic browning occurred as combination of an amino acids and sugar, during heating of food. ()
- 34- Vitamin A can prevent Antibrowning agents of enzymatic browning for some fruit or vegetables. ()
- 35- Bile juice facilitates the absorption of fat including water-soluble vitamins (ADEK). ()
- 36- Basal metabolic rate for man of 70Kg body weight equal 1680 calories, while for women of 70 Kg BW equal 1512 calories. ()
- 37- Sulphur dioxide can be used prevent this reaction but it has destructive effect on Vit.B. ()
- 38- Oddi muscle contract at the arrival of food from the stomach to duodenum facilitating the secretion of bile juice from gallbladder. ()
- 39- One role of nitrate as additive is to acts as antimicrobial. (Both nitrates and nitrites have antimicrobial action). ()
- 40- Citric acid can prevent antibrowning agents of enzymatic browning for some fruit or vegetables. ()
- 41- The artificial color additive Lycopene red dye from tomatoes: provide food with red color which used as national food coloring, ()

- 42- The decreased plasma protein leads to leakage of water from blood to different tissues (called edema disease). ()
- 43- Addition of monosodium glutamate, and broth to food to become beefy and giving butter flavor. ()
- 44- One of role of nutritional additives to enhance the overall nutritive value of the food..... ()
- 45- Fats enter structural components of the cells such as phospholipids of cell membranes..... ()
- 46- Saliva secreted by four pairs of salivary glands at a rate of one liter per day. ()
- 47- Chromoprotein is a conjugated protein that contains a pigmented prosthetic group such as respiratory pigment or hemoglobin. ()
- 48- All enzymes like: pepsin and some hormones like: insulin, adrenaline (epinephrine and nor-epinephrine), thyroxine and parathormone consider as derived proteins. ()
- 49- Simple proteins include albumin globulin, collagen and heparin and gelatin ()
- 50- Excess of vitamin D leads to the deposition of calcium salts in soft tissues such as kidney and ureter stones. ()

Second question MCQ: Choose the appropriate letters A, B, C or D. (25 Marks: one mark each):-

51- The bile juice contains:-

- A: Lipase enzyme.
- B: No enzymes are found in spite of its role in fat digestion.
- C: Amylase enzyme.
- D: Not the above.

52- Complete digestion of milk protein casein in children and young animals is carried out by:

- A: Gastric pepsin enzyme in stomach.
- B: Rennin enzyme in stomach.
- C: Trypsin enzyme in small intestine.
- D: The above A & C.

53- Function of rennin enzyme of stomach juice is:

- A: Coagulate and digestion of milk in stomach of children and young animals.
- B: Enzyme has ability to coagulate milk in stomach of children and young animals.
- C: Digestion of milk in stomach of children and young animals.
- D: All the above except A.

54- Natural coloring agents (food dyes) such as:

- A: Quinoline Yellow, Caramelized sugar
- B: Vanilla extract
- C: Lycopene.
- D: All the above except A.

55- The longest length part of small intestine is:-

- A: Jejunum
- B: Ilium
- C: Duodenum
- D: All are the same length.

56- Examples of Nutritional Additives include:-

- A: Amino acids to cereals to enhance protein quality.
- B: Sodium nitrite to increase nutritional value.
- C: Fiber additives increase in consumer dietary fiber.
- D: All the above except B.

57- Examples of compound proteins are:-

- A: Phosphoprotein such as casein.
- B Some hormones like insulin.
- C: Albumin Globulin, Collagen and cholesterol.
- D: All the above except C.

58- 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,

59- Advantages of additives include:-

- A: Provide smaller variety of foods.
- B: To rapid growth of microorganisms.
- C: Can increase the safety.
- D: All the above except B.

60- Function of nutritional additives:-

- A: To restore nutrients lost in processing.
- B: To enhance the overall nutritive value of the food.
- C: To change the colour of the food product.
- D: All the above except C.

61- Function Ghrelin hormone:-

- A: Increase bone formation
- B: Increase gastric motility and growth hormone secretion.
- C: Increase growth hormone secretion.
- D: All the above.

62- Preservatives are additives such as:-

- A: Antioxidants, Antibrowning agents and antimicrobials.
- B: Sweeteners,
- C: Coloring agent.
- D: All the above except C.

63- Simple lipids are esters of fatty acids with fatty alcohol, such as:

- A: Globulin and oils
- B: Oils, and butter

-C: Wax of honey bees

-D: B & C.

64- Fruits and vegetables are beneficial for human growth are found in the old food pyramid in :-

A: The second group.

B: The third group.

C: the fourth group.

D: The fifth group.

65- Taking of excess of certain vitamins in food may increase the probability of clot formation particularly in blood-disease patient and example of this vitamin is:-

-A: Vitamin K

-B: Vitamin C.

-C: Vitamin D

-D: Not the above.

66- Causes of Deficiency of vitamin B12 can resulted from:-

-A: Gastric diseases or Liver cirrhosis or Inflammation of intestine.

-B: Scurvy.

-C: Sterility.

-D: All the above.

67- The main functions of dietary lipids include:-

-A: The second source of energy (25% of body needs).

-B: Act as thermal insulator and synthesis of some hormones.

-C: The sources of some enzymes and hormones.

-D: All the above except C.

68- Accumulation of pyruvic acid in blood can occur due to:

-A: Vitamin E deficiency.

-B: Vitamin A deficiency.

-C: Vitamin B1 deficiency.

-D: All the above.

69- Some groups of the food pyramid group can be replaced by another group and eaten without leaving a harmful effect, such as:

A: Vegetables and fruits.

B: Bread, cereals, rice and pasta.

C: Butter, cream, margarine, sugars, sweets.

D: Not all the above.

70- One type of the dietary fibers is the insoluble fibers such as:

A: Cellulose, lignin.

B: Wheat bran.

C: Flax seed and peas.

D: All the above except C,

71- Skeletal muscles are unable to release glucose into blood , because muscles lack of:-

- A: Lipase enzyme.
- B : Glucose-6-phosphatse enzyme
- C: Amylase enzyme.
- D: Maltase enzyme.

72- Leptin hormone:-

- A: Control of food consumption.
- B: Decrease energy expenditure.
- C:Increases body weight.
- D: All the above except C.

73- 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.

74- Snacks cause obesity due to:-

- A:Its lower energy content.
- B:Its high contents of complex carbohydrates and fibers.
- C:Its greater saturated fat and low fibers
- D: All the above except A.

75- 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.

With my best wishes and great success,
Professor Dr. Mohamed Bassam Al-Salahy Elbradei