Q2- Choose the correct answer (10 marks)

1. Which of the following is one of the parts of the hindbrain?
a. hypothalamus b. cerebellum c. corpus callosum d. spinal cord

2. If there is an injury in the hypothalamus region of the brain, it is most likely to affect…..
a. regulation of body temperature b. decision making
c. co-ordination during locomotion d. short-term memory

3. Which of the following divisions is NOT a part of the peripheral nervous system?
a. brainstem b. sympathetic c. parasympathetic d. enteric

4…….. is released by motor nerve endings onto muscle.
a. Acetylcholine b. Norepinephrine c. Dopamine d. Serotonin

5. In reflex action, reflex arch is formed by……..
a- brain-spinal cord-muscle b. receptor-spinal cord-muscle
c- muscle----brain-----spinal cord d. muscle-receptor--spinal cord

6. Which of the following receptors are responsible for smell and taste?
a. thermoreceptors b. chemoreceptors c. mechanoreceptors d. electroreceptors

7. Which part of the brain maintains posture and equilibrium of the body?
a. forebrain b. midbrain c. hindbrain d. spinal cord

8. Glial cells are the most abundant cells in ……
a. lung b. kidney c. liver d. brain

9. The difference in voltage between the inside and outside of a resting cell is called……
a. actions potential b. repolarization c. resting potential d. depolarization.

10. What is the purpose of the blood brain barrier?
a. it provides another layer of CSF b. it protects the peripheral nervous system.
c. it supplies nutrients while preventing hazardous chemicals from reaching the brain.
d. it transits electrical signals between neurons.

Q3-Answer on the following……..(8 marks)

1-Write briefly on the basic types of sensory receptors. **(2 marks)**

Final Exam: Physiology 2 (317Z)
Credit Hour System 27-7-2024
Total marks: 50

Time: Two Hours
Second Semester

Part I (nervous coordination)

Answer the following questions: **(25 marks)**

Q1- Sign true (√) or false (×): **(7 marks)**

1. Neurotransmitters are signal molecules released at synapses. ( )
2. Corpus collosum is a thick bundle of nerve fibers that connects the two cerebral hemispheres. ( )
3. Excessive polarization due to GABA is created due to the opening of Na^+ & K^+ channels. ( )
4. Astrocytes line the ventricles in the brain and central canal of spinal cord. ( )
5. In Phylum Mollusca the NS is composed of nerves with pedal and visceral nodes which are always concentrated in the anterior ring. ( )
6. Most serotonin receptors are coupled to G-proteins that affect the activities of either adenylate cyclase or phospholipase C (IP3). ( )
7. Functional center for emotional memory includes parts of the thalamus, hypothalamus, and cerebral cortex. ( )
8. Lateral horns of gray matter are located ONLY in thoracic and lumbar regions. ( )
9. The 3rd order neuron of ascending tract carries signal from thalamus to sensory region of medulla oblongata. ( )
10. Degeneration of basal ganglia cells leads to Parkinson's disease. ( )
11. Most important region for homeostatic regulation is found in hypothalamus. ( )
12. Almost all the synapses used for signal transmission in the CNS are chemical synapses. ( )
13. An increase in negativity beyond the normal resting membrane potential level is called an inhibitory postsynaptic potential. ( )
14. Acetylcholine is a simple molecule synthesized from choline and acetyl-CoA through the action of choline acetyltransferase. ( )

2. Write on the mechanism of neurotransmitter termination. (2 marks)

3. Mention the functions of myelin in the nervous system. (2 marks)

4-By drawing show, the structural differences between the sympathetic and parasympathetic nervous systems. *(2 marks)*

Part 2: Endocrinology

Q1: Choose the correct answer (15 marks):

1. The endocrine gland that is essential for life
a. Adrenal medulla b.Thyroid c. Parathyroid d. Pineal gland

2. Which of these is NOT an endocrine gland?
a. Pineal gland b. Suprarenal gland c. Gastric gland d. Parathyroid glands

3. Hormone secreted from posterior pituitary
a. Luteinizing hormone b. FSH c. Oxytocin d.TSH

4. Responsible for milk ejection and delivery
a. Vasopressin b. Dopamine c. Cortisol d. Oxytocin

5. The nervous system and endocrine system are linked through
a. Cerebral cortex b. Cerebellum c. Medulla d. Hypothalamus

6. Endocrine gland is NOT under the control of its own function
a. Parathyroids b. Adrenal medulla c. Pancreas d. Thyroid

7. Lipid-soluble hormones are characterized by the following EXCEPT
a. Can cross cell membrane b. Activate the already synthesized proteins
c. Their receptors on either cytoplasm or nucleus d. Act on transcription

8. Thyroxine
a. Is about four times as potent as T3
b. Less bound to plasma proteins
c. Has low affinity to bind with nuclear receptors
d. Present in the blood in much smaller quantities

9. Which of the following hormones has a receptor on DNA?
a. Growth hormone b. Estrogen c. Cortisol d. Thyroid hormones

10. Which of the following most probably results in decreased thyroid hormones secretion?
a. Increase in TSH b. Increase in TRH c. Increase in T3 d. Increase in T4

11. Selective destruction of the zona glomerulosa of the adrenal cortex would produce a deficiency of which hormone?
a. Aldosterone b. Androstenedione c. Cortisol d. Dehydroepiandrosterone

12. Glucocorticoids increase blood glucose level by the following mechanisms EXCEPT
a. Increase protein catabolism b. Increase lipogenesis
c. Decrease glucose utilization d. Increase lipolysis

13. The factor that decreases insulin secretion
a. Increase in blood glucose level b. Norepinephrine and epinephrine
c. Increase in blood fatty acid level d. Acetylcholine

14. Glucagon
a. Accelerates the conversion of glycogen into glucose
b. Slows down glucose formation from lactic acid
c. Decreases the conversion of glycogen into glucose
d. Speeds up protein synthesis within cells

15. Mineralocorticoids cause
a. Increase in Na^+ secretion b. Increase in K^+ reabsorption
c. Increase in H^+ secretion d. Decrease in water reabsorption

Q2: Answer five only from the following (10 marks):

1- Mention the differences between positive and negative feedback control of hormones.

2- Illustrate by labelled diagram negative feedback control of testosterone secretion and spermatogenesis.

3- Mention the functions of the ovarian hormones (estrogen and progesterone).

4- Explain how insulin decrease blood glucose level, and enumerate two factors that regulate glucagon secretion and mention their effects.

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15. Mineralocorticoids cause
a. Increase in Na^+ secretion b. Increase in K^+ reabsorption
c. Increase in H^+ secretion d. Decrease in water reabsorption

5- Illustrate by labelled diagram secretion of oxytocin and prolactin in response to suckling and sight and sound of a baby.

6. Mention the hypothalamic hormones control the secretions of anterior pituitary.

Good Luck
Dr. Sohair Ragab

Assiut University
Faculty of Science
Zoology and Entomology Department

Course: Medical Entomology
Course code: (344Z)
Time: Two hours

Final exam (May, 23, 2024)

Answer the following questions

I: Answer Four only of the following (20 marks)

1- Discriminate between rural and urban plague

2- List 3 methods of disease transmission in insects

3- List 3 Uses of forensic entomology

4- List 3 methods of biological transmission of diseases by arthropods

5- Draw a diagram of dengue virus genome

II: Define FIVE only the following terms (10 marks)

1- PMI in forensic entomology
2- Bubonic plague
3- Myiasis
4- Disease outbreak
5- Medicolegal Entomology
6- Maggot therapy

III: Choose the best correct answer (10 marks)

1- The malaria parasite is transmitted by ……..

a- *Aedes* b- *Anopheles* c- *Culex* d-None

2- ……..is the most common vector for dengue virus

a- *Aedes aegyptii* b- *Culex pipiens* c- *Culex fatigans* d- *Anopheles gambiae*

3- The genome of dengue virus is composed of ……..

a- Double stranded DNA b- Double stranded RNA

c- Single stranded RNA d- Single stranded RNA

4- The amplifying host for WNV is .....

a- Fleas b- Birds c- Rodents d- All are true

5- Bubonic plague is primarily transmitted by.....

a- Cat flea b- *Anopheles* mosquito

c- *Aedes* mosquito d- Rat flea

6- The insect vector for *Loa loa* is .....

a- *Chrysops* fly b- Cat flea c- Rat flea d- None

7- Pneumonic plague is the first symptom of plague disease.....

a- True b- False

8- The vector of tularemia causing agent is .....

a- Mosquito b- Tabanid flies c- Rodents d-Fleas

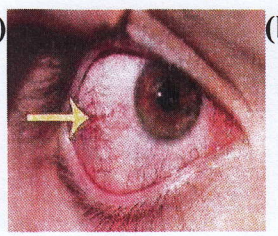
9- An insect where both males and females bite people.....

a- Aedes *b- Culex* *c- Tse Tse* *d- Tabanus*

10- Pr M/M protein is the envelope protein of dengue virus.....

a- True b- False

IV: Identify the specimens from a to d (10 marks)

(a) 

(b) 

(c) 

(d) 

End of questions.....

Good luck

Assiut University
Faculty of Science
Zoology Department

2024

Final exam
Course number: 321 Z
(Parasitology)
Time: 2 hours

(Total 50 marks)

A- Choose the correctanswer for each of the following (one mark/ each)

1. Two hosts are required in

(a) *Plasmodium* spp. (b)*Enterobius vermicularis*

(c) *Giardia* sp. (d) *Trichomonas hominis*

2. Infective stage of *Heterophyes heterophyes* is encysted in

(a) Grasses (b) Snails

(c) Sheep (d) Fish

3. Cercariae of *Schistosoma* and *Fasciola* are different in the following except

(a) Tail (b) Penetrating glands

(c) a and b (d) Alimentary canal

4. *Giardia lamblia* cyst contains

(a) 2 nuclei (b) 4 nuclei

(c) 6 nuclei (d) 8 nuclei

5. Platyhelminthes and Nematodes are different in the following except

(a) Triploblastic (b) Monocieous.

(c) Digestive system (d) Adhesive organs

6. Asexual cycle in *Plasmodium* sp in human blood includes

(a) Gametocytes (b) Trophzoite

(b) Merozoites (d) All the above

7. Large trophzoite of *Entamoeba histolytica* feeds on

(a) RBC and mucosa (b) blood

(c) Digested food (d) Mucosa in the colon

8. Infection with *Trypanosoma cruzi* occurs by

(a) Contamination of wound with feces (b) Blood transfusion

(c) Congenital transmission (d) All the above

9. Habitat of *Entamoeba gingivalis*is

(a) Small intestine (b) Large intestine

(c) Oral cavity (d) Blood

10. The infective form of *Leishmania* is

(a) Promastigotes (b) Epimastigotes

(c) Metacyclic trypansoma (d) Crithidia form

11. Which of the following protozoans is transmitted primarily by the motile trophozoite form?

(a) *Balantidium coli* (b) *Entamoeba histolytica*

(c) *Giardia lamblia* (d) *Trichomonas vaginalis*

12. Which of the following parasites can be reactive in immunosuppressed hosts

(a) *Enterobius vermicularis* (b) *Clonorchis sinesis*

(c) *Toxoplasma gondii* (d) *Balantidium coli*

13. The intermediate host of *Fasciola gigantica* is

(a) Cattle (b) Pigs

(c) Cyclops (d) Snails

14. In humans, malarial parasites multiply by

(a) Binary fission (b) Budding

(c) Gametogony (d) Schizogony

15. Autoinfection could be propagated by

(a) *Ascaris* sp. (b)*Ancylostoma* sp.

(c) *Taenia saginata* (d) none of the above

16. The second intermediate host of *Diphyllobothrium latum* is

(a) Snails (b) Fish

(c) Frogs (d) Cyclops

17. *Taenia saginata* is the cestode parasite, to complete its life cycle requires

(a) Three host (b) Four hosts

(c) Five hosts (d) Two hosts

18. The ootype in trematoda connect with

(a) Oviduct (b) Vitelline canal

(c) Uterus (d) all of the above

19. Consumption of uncooked fish is likely to cause which of the following helminthic disease

(a) *Diphyllobothrium latum* (b) *Taenia saginate*

(c) *Fasciola hepatica* (d) *Echinococcus granulosus*

20. The infective stage of *Plasmodium falciparum* is

(a) Oocyst (b) Sporozoite

(c) Bradyzoite (d) Tachyzoite

21. Which of the following is not a cestode

(a) *Diphyllobothrium latum* (b) *Echinococcus granulosus*

(c) *Taenia solim* (d) *Schistosoma haematobium*

22. Digestive tract is completely absent in

(a) Trematodes (b) Cestodes

(c) Nematodes (d) All of the above

23. Nematodes are differentiated from other worms by the following except

(a) Absent fragmentation (b) Flat or flashy leaf-like worm

(c) Separate sexes (d) cylindrical body

24. Which of the following statements is true in respect to trematodes

(a) Dorso-ventrally flattened (b) Intermediate host is mostly snail

(c) Hermaphrodite except Schistosomes (d) All of the above

25. All the following lead to bloody diarrhea except

(a) *Schistosoma mansoni* (b) *Entamoeba histolytica*

(c) *Schistosoma haematobium* (d) *Trypanosoma* spp.

26. The definite host in *Trypanosoma* is

(a) Insect (b) Human

(c) Lice (d) Winged bug

27. The diagnostic stage of *Taenia* spp. is

(a) Blood in urine (b) Egg in feces

(c) Egg in urine (d) Cercariae in water

28. The infective stage of *Ascaris lumbercoides* is

(a) 1st larval stage (b) 2nd larval stage

(c) 3rd larval stage (d) Egg

29. Amoebic meningitis is a disease that can be caused by

(a) *Entamoeba histolytica* (b) *Naeglaria fowleria*

(c) *Entamoeba gingivalis* (d) *Entamoeba coli*

30. All the following parasites can be transmitted congenitally except

(a) *Trypanosoma cruzi* (b) *Toxoplasma gondii*

(c) *Plasmodium* spp. (d) *Giardia lamblia*

B- Mention which (True) or (False) of the following sentences (2 marks/each)

31. Infective stage of *Ascaris* sp is cysticercoid larvae ( )

32. Oocyst is the zygote after the formation of the cyst wall ( )

33. Metacercariae are encysted cercariae without tails ( )

34. All cercariae may have both penetration and cystogenous glands ( )

35. Zoonoses, are the diseases transmissible between animals ( )

36. Parasites is an organism which live at the expense of another ( )

37. *Balantidium coli* can reproduce asexual by budding ( )
38. *Fasciola* spp. and *Clonorchis* spp. are liver flukes ( )
39. Human, cats, and dogs are definitive hosts of *Heterophyes heterophyes* ( )
40. Diagnostic stage of *Fasciola gigantica* is eggs in feces ( )
41. All protozoans are motile ( )
42. Redia stage is a larval stage in *Schistosoma* spp. ( )
43. The vector host of *Plasmodium* spp. in Egypt is female of culex ( )
44. *Taenia saginata* differs from *Taenia solium* in the shape of gravid proglottid ( )
45. The infective stage of *Ancylostoma duodenale* is filariform larva ( )
46. *Enterobius vermicularis* lays eggs containing larvae ( )
47. Diagnostic stage of *Ascaris lumbercoides* is larva in sputum ( )
48. Intermediate host of *Taenia saginata* is cattle ( )
49. Cattle infects with liver flukes by consumption of metacercaria with food ( )
50. Costa is a cytoplasmic structure seen at the base of undulating membrane of intestinal flagellates ( )

Good luck*.....*Prof. Dr. Gamal H. Abed
Dr. Sara S. Abdel-Hakeem

Assiut University
Faculty of Science
Zoology and Entomology Department

Course: Genetic Engineering
Course code: (314Z)
Time: Three hours

Final exam (May, 2024)

Answer the following questions

I: Choose the best correct answer (25 marks)

1- Type II restriction enzymes is characterized by……

a- does not generate specific fragments **b- requires Mg2+**

c- requires ATP **d- requires adenosyl methionine**

2- β-galactosidase enzyme reaction screening is used for proper……..

a- transfection **b- amplification** **c- ligation** **d- antibiotic resistance**

3- When cDNA itself has a site for the restriction enzyme cleaving the linkers, this can be overcome using ……enzyme.

a- methylase **b- phosphatase** **c- polymerase** **d- reverse-transcriptase**

4- If the vector containing AMP^r and lac Z genes, and after transfection and growing in media containing Amp + X-gal, the appearance of blue color colonies mean that…….

a- no vector **b- cloning vector with recombinant DNA**

c- cloning vector without recombinant DNA **d- no DNA amplification**

5- The herpes simplex virus thymidine kinase gene (HSVtk) is used as……in homologous recombination.

a- Negative selection marker **b- positive selection marker**
c- restriction enzyme site **d- none of the mentioned**

6- Clustered regularly interspaced short palindromic repeats (CRISPR) is found in…..

a- All eukaryotes **b- prokaryotes**

c- some eukaryotes and all prokaryotes **d- some eukaryotes**

7- In CRISPR cas9 system,…….. prevents the systems from attacking its own CRISPR

a- Cas9 **b- crRNAs** **c- PAM** **d- tracrRNAs**

8- RNA editing takes place in cell …….

a- lysosome **b- ribosome** **c- centrosome** **d- none of the mentioned**

9- CRISPR-Cas system class 1 type III is called.....

a- CRISPR Cas 9 b- CRISPR Cas3 c- CRISPR Cas 10 d- CRISPR Cas7

10- The most commonly-used Cas9 from Streptococcus pyogenes recognizes the PAM sequence

a- 5′-GGN-3′ b- 5′-NGG-3′ c- 5′-GNG-3′ d- 5′-NNGRR(N)-3′

11- Combining crRNA and tarcrRNA into .....was the crucial step for the development of CRISPR technology.

a- sgRNA b- PAM c- target DNA d- genomic DNA

12- For successful and efficient targeting, the vector must contain at least ..... kb of isogenic DNA homologous with the sequence to be targeted.

a- 5-10 b- 5-15 c- 10-100 d- 20-30

13- In figure A, X is referring to.....

a- sgRNA b- PAM c- tracrRNA d- spacer

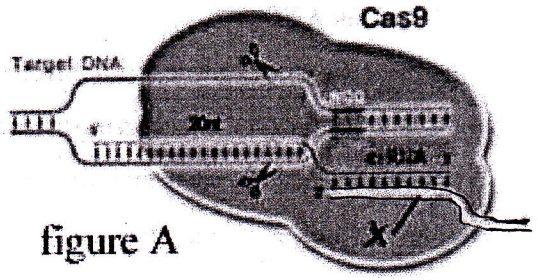


figure A

14- figure (B) represents homologous recombination in gene knock out, X refers to.....

a- HSVtk b- neo^r c- G418 d- ganciclovir

15- figure (B) represents homologous recombination in gene knock out, Y refers to.....

a- HSVtk b- neo^r c- mutated locus d- ganciclovir

16- figure (B) represents homologous recombination in gene knock out, Z refers to.....

a- HSVtk b- neo^r c- mutated locus d- none of the mentioned

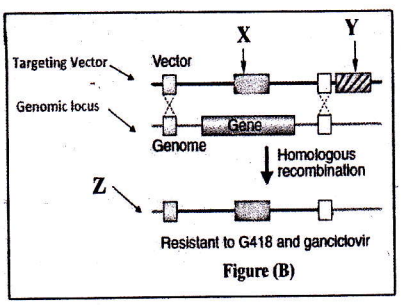


Figure (B)

17- Inosine largely behaves like ..... in RNA folding and by the translation machinery.

a- adenine b- guanosine c- thymine d- cytosine

18- A-to-I RNA editing sites are abundantly occur in....

a- Intronic regions and 3′-UTRs of mRNA b- Intronic regions only

c- exonic regions and 3′-UTRs of mRNA d- exonic regions only

19- ADARs are Adenosine deaminases that acting on .....catalyzing A to I transition

a- dsDNA b- dsRNA c- ssDNA d- ssRNA

20- REC I domain of cas9 system .....

a- cuts single stranded DNA b- binds gRNA

c- interacts with PAM sequence **d- binds target DNA**

21- HNH and Ruvc domains of cas9 system.....

a- cut single stranded DNA **b- bind gRNA**

c- interact with PAM sequence **d-bind target DNA**

22- Which of the following characteristics is not correct for wild type Crispr cas 9 system

a- makes insertions and/or deletions **b- cut in dsDNA**

c- has nickase activity **d- activates dsDNA break repair machinery**

23- Which of the following characteristics is correct for Crispr cas9D10A system

a- makes insertions and/or deletions **b- cut in dsDNA**

c- has nickase activity **d- activates dsDNA break repair machinery**

24- Which system of the following cacs9 has a deficient nuclease activity

a- wild type cas9 **b- cas9D10A** **c- cas9 d10** **d- dcas9**

25- The only cas9 system that can be used as a paired ccas9 complexes

a- wild type cas9 **b- cas9D10A** **c- cas9 d10** **d- dcas9**

II: Answer the following (6 marks)

1- Draw a diagram showing the main steps of genetic modification
2- Compare between the three types of restriction enzymes
3- Gene cloning from genomic DNA
4- Therapeutic uses of RNA interference
5- Types of expression vectors
6- Limitations of using site specific nucleases in gene knockout

III: Define the following terms (9 marks)

1- Sticky end and blunt end restriction enzymes
2- DNA ligase
3- Transformation (Just define)
4- Gene knockout
5- miRNA and siRNA

6- ORI in plasmid DNA

7- Mechanisms of DNA repair in site specific nucleases

8- List 3 applications of TALENs

9- Chimeric organism

Mark true or false (correct false ones) (10 marks)

1- In gene cloning, the middle part of the gene of interest should not containing a restriction site for the cloning restriction enzyme ( )
2- Ligase enzyme connects DNA molecule by forming hydrogen bonds ( )
3- In cloning procedures, calcium chloride incubation of bacterial cells is performed to generate competent cells ( )
4- Transient knockdown is the same process of RNAi ( )
5- Reverse transcriptase is the enzyme responsible for making a DNA copy from RNA ( )
6- RISC is an enzyme that cleaves dsRNA into siRNA ( )
7- The initial step in RNAi involves a single in vitro transcription reaction ( )
8- The replacement lambda phage vector has two restriction sites ( )
9- siRNA are involved in the mechanism of RNAi ( )
10- Phosphodiester bonds link nucleotides in the same DNA strand ( )

End of questions.....

Good luck

Assiut University
Faculty of Science
Zoology & Entomology Department

Second semester Economic Entomology Exam
(20 – 5 – 2024)

Time: 2 hours
Level: Three
Course Code: 342Z

Note: the questions on five pages and the answers in the same place

Answer the following questions (50 marks)

First Question: Choose the best correct answer: (10 marks)

1. **…… a complex mixture of proteins, peptides and low molecular components.**
   a) Bee honey. b) Bee venom. c) Bee propolis. d) Bee wax.
2. **All of the following are major polyphagous pests, except …… .**
   a) Corn earnworm. c) Egyptian cotton leafworm.
   b) American bollworm. d) The spiny bollworm.
3. **All of the following are major primary pests, except …… .**
   a) Indian meal moth. c) Angoumois grain moth.
   b) Maize weevils. d) Bean weevils.
4. **Insects can cause damage directly by all the following, except ……**
   a) Chewing of plants. c) Spoiling.
   b) Infesting stored products. d) Removal of plant sap.
5. **…… are insects that attack plants below the surface of the soil.**
   a) Internal feeders. b) Scavengers. c) Subterranean insects. d) Predators.
6. **…….. are very susceptible to pest injury and total crop can be lost.**
   a) Young plants. b) Seedlings. c) Flowers. d) Tubers.
7. **Members of …… are scavengers whose are destructive at both larval and adult stages to stored materials.**
   a) Spider beetles. b) Dermestid beetles. c) Flour beetles. d) A and B.
8. **…… has the capacity to mimic the functions of estrogen.**
   a) Royal jelly. b) Bee venom. c) Bee propolis. d) Shellac.
9. **The adult moth of …… show strong seasonal polymorphism depending on the temperature.**
   a) The pink bollworm. c) Corn earnworm.
   b) American bollworm. d) The spiny bollworm.

10. The appearance of the damage of ..... is silvery patches or streaks on the leaves that shine in the sun.

a) Whiteflies. b) Thrips. c) Aphids. d) Green lacewings.

Second Question: Put (True) or (False) in front of the following substances: (15 Marks)

1. Black ants are commonly found on plants with aphid infestations. ( )
2. Both adults and larvae of the confused and red flour beetles cause damage. ( )
3. Both drones and workers of honey bee are developed by parthenogenesis. ( )
4. Plant borers involve burrowing more deeply into stems, roots, or fruits. ( )
5. Adults of both rice weevil and granary weevil are the most destructive grain pests owing to the ability of flight. ( )
6. Sometimes a major pest of one crop/host will be a minor pest on another. ( )
7. The larvae of Saw-Toothed grain beetle feed on the germ of damaged and broken seeds. ( )
8. The larder and black carpet beetles are very common and widespread household insect pest. ( )
9. The spider beetle is known for its dirty eating behavior, by feeding only a little on each grain. ( )
10. Both adult and larvae of Indian meal moth attack only broken kernels of grain. ( )
11. Larvae of Mediterranean flour moth can produce copious amounts of silk contaminating grain. ( )
12. Of the moths, only the Angoumois grain moth is an internal feeder. ( )
13. Thrips prefer to feed on the young plant tissue on the newest emerged leaves. ( )
14. The three subsequent nymphal stages of Thrips are immobile and often covered with waxy excretions. ( )
15. Cutworms are the most common species encountered in cotton fields. ( )

Third Question: Write the suitable terminology of the following sentences. (10 Marks)

1. Anything that interferes with human activities and causes harm to humans, their livestock or crops. (.....).
2. Abnormal or pathological growth in plants done as a response to some invader. (.....)

3. The level of damage by a pest that serves to warn the agriculturalist of impending problems. (.....)
4. Tiny wasps that parasites of the eggs of a variety of moths. (.....)
5. Adult bee which develop by parthenogenesis from unfertilized eggs. (.....)
6. Insects that play an equally vital role in waste biodegradation. (.....)
7. Insects which feed on a variety of plants. (.....)
8. The physical destruction to a valued commodity caused by the presence or activities of a pest. (.....)
9. A mixture of chemicals used by bees to house larvae and store honey and pollen. (.....)
10. Cotton pests which have piercing-sucking mouthparts and have two protrusions on their rear tips called cornicles. (.....)

Fourth Question: Write the Host range of the following: (5 marks)

1. **The confused flour beetle, (*Tribolium confusum*).**

.....

.....

2. **Angoumois Grain moth, (*Sitotroga cerealella*).**

.....

.....

3. **Thrips, (*Thrips tabaci*).**

.....

.....

4. **Egyption cotton leafworm , *(Spodoptera littoralis).***

.....

.....

5. **Larder Beetle, (*Dermestes lardarius*).**

.....

.....

Fifth Question: Write short notes about four parts only of the following: (10 marks)

1- Write on harmful effects and economic losses of insect?

2- Damage by Aphids (*Aphis gossypii*) occurs in two ways. Explain by showing the important signs of infestation?

3- Insects playing an important role in ecological cycle. Explain?

4- Thrips, (*Thrips tabaci*) have a very peculiar feeding behavior, Explain?

5- Each bee colony has only one queen. Explain what it is function?

6- Write about the economic damage of the spiny bollworm, (*Earias insulana)*?

Assiut University Faculty of Science Department of Zoology	Final Exam of Principles of Embryology (Z 334) for Chemistry-Zoology & Zoology students	June, 7th 2024 Time: 2 hours Total marks: 50

Answer the following questions using labeled drawings when it is possible:

1- A) Draw and give labels for different parts of: (a) sperm (b) chick egg. (6 marks)

B) Differentiate with labeled drawings between mesodermal somite in *Amphioxus* and toad. (4 marks)

2- A) State true or false: (5 marks)

i- Chordamesoderm is located at the roof of archenteron.

ii- Distal centriole functions for the union of male and female nuclei.

iii- Fertilization cone helps to prevent entry of new sperms into the ovum.

iv- The value of pH is not important factor during fertilization.

v- Type of cleavage in chick embryo is superficial meroblastic one.

B) Choose the right answer: (5 marks)

i- In vertebrates, yolk is synthesized in

a) oocyte b) liver of mother c) fat bodies d) a and b

ii- The surface of chick oocyte is covered by an area called

a) corona radiate b) zona radiate c) zona pellucida d) vitelline membrane

iii- An example of viviparous animals is

a) kangaroo b) Chick c) duck d) human

iv- Cleavage type in the toad is

a) equal holoblastic b) unequal holoblastic c) meroblastic d) superficial

v- If nondisjunction occurs in the second meiosis, trisomy probable percentage is

a) 100% b) 75% c) 50% d) 25%

3- A) Compare between the blastulae of *Amphioxus* and toad. (5 marks)

B) Account the different types of ova giving example for each. (5 marks)

4- What are the different types and functions of placenta? (10 marks)

5 - Write on the hormonal control of spermatogenesis. (10 marks)

End of questions.....Best of Luck

Dr. Reda A. Ali

Prof. Experimental Embryology

Assiut University
Faculty of Science
Dept. of Zoology

Final Exam. of Cell Biology (312Z) for Zoology Students

June 2024 **Time 2 hours**

I- Choose the correct answer: (15 Marks)

1-The generation time is the time required for the number of cells in the population to exactly:

a) half b) one third c) double

2- The phase of population growth cycle in which there is little or no increase in the number of population cells is called: a) exponential phase b) lag phase c) cycle phase

3- Changes in temperature cycle, light cycle and chemical concentrations in a batch culture known as: a) synchrony by induction b) synchrony by selection c) natural synchrony

4- The hallmark of AIDS is the decline in the number of patient's:

a) immune system b) T and B cells c) $CD4^+$ T cells

5- Cell growth and protein production are stop at certain stage in the cell cycle. This stage is?

a) G_2 phase b) M phase c) G_1phase

6- One of the human papilloma virus (HPV) products is a protein (E6) that binds and inactivates the apoptosis promoter → a) P53 b) P58 c) P63

7- Which one of the following statements regarding culture fractionation is FALSE?

a) selecting cells at the same age b) selecting cells at the same stage of growth division cycle

c) avoids the potential problems of synchronization techniques

8- The various phases of the growth and reproduction of cells constitute what is called:

a) cell growth b) cell cycle c) cell division

9- In the programmed cell death, Bcl-2 is bound to a molecule of protein which called:

a) caspase 9 b) Apaf-1 c) TNF-β

10- In death by suicide, the phagocytic cells secrete cytokines that:

a) activate cell death b) engulf the died cells c) inhibit inflammation

11- The replication of the nuclear DNA occurs in the portion of the cell cycle known as:

a) interphase b) metaphase c) anaphase

12- In the death by injury, the cells and their organelles undergo changes like:

a) swell b) shrink c) both of them

13- When the population density is high enough for the cells to physically come into contact with each other; this phenomenon is called:

a) continuous culture b) contact inhibition c) non- continuous culture

14- The anterior chamber of the eye is immunologically privileged site because their cells express high levels of: a) TNF-α b) Fas c) Fas L

15- The phase of population growth cycle in which the number of cells lost by death and degeneration is greater than produced by cell divisions is known as:

a) decline phase b) lag phase c) exponential phase

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

II- Fill in the spaces (10 Marks)

1- Melanoma cells avoid apoptosis by inhibiting the expression of the gene encoding .....

2- To get continuous culture of cell, one popular method involves the use of .....

3- Proliferative genes, such as *c-fos* and others of its kind, are countered by .....

4- The Enzymes that do the unwinding the double-helical structure that makes up DNA called..... .....

5- A free radical can be produced from almost any molecule when .....

6- Testosterone supplementation might trigger excessive red blood cell production in some men which can increase a man's risk of..... .....

7- In a process called ....., glucose molecules attach themselves to proteins that ends in the protein crosslinking.

8- Each time a cell divides, the telomeres get .....

9- The interleukin, rise with age, and it is speculated that interfere in some way with the immune response is called: ....

10- Growth factors include substances which ....many of the actions of hormones.

III- Write the following data: (17 Marks)

A- In gape 1 (G1) phase, cells are characterized by:

1-

2-

3-

B - In hormonal replacement, supplements of hGH can promote many problems as:

1-

2-

3-

4-

C- Calorically restricted animals live far beyond their normal lifespans due to the following:

1-

2-

3-

4-

5-

6-

D- Programmed cell death is needed to destroy cells that represent a threat to the integrity of the organism, For example:

1-

2-

3-

4-

<u>IV-Answer two only of the following:-</u> **(8 Marks)**

1- Apoptosis and AIDS..
2- Heat shock protein.
3- Proliferative genes.

Zoology & Entomology Department	**Final-term exam, 2nd semester, 2023/2024** **Cell and Molecular Biology (Z 318)** **Time limit: 2 hours** **Date: Thursday, May 30th, 2024** **Total score: 50 marks** **The test consists of 5 pages**	

Q1: Choose the correct answer from "A, B, C, or D" on the provided bubble sheet.

(40 marks, one mark for each)

1- In the structure of the plasma membrane, the head of a phospholipid linked to its tail by (.....).
A) Carbohydrate group B) Phosphate (PO_4) group C) Protein group D) Fatty acid group

2- What type of granules are Zymogen granules an example of?
A) Secretory granules B) Mitochondrial granules C) Peroxisomal granules D) Lysosomal granules

3- The purpose of the S phase in the cell cycle is (.....).
A) Chromosome alignment B) DNA replication C) Cell division D) Chromosome condensation

4- Which type of nucleus contains a large amount of nuclear sap, as seen in hepatocytes?
A) Open face nucleus B) Closed face nucleus C) Condensed nucleus D) Expanded nucleus

5- Which type of intermediate filaments are abundant in mesenchymal cells?
A) Cytokeratin B) Desmin C) Neurofilaments D) Vimentin

6- In the cell cycle, sister chromatids undergo separation and move towards opposite poles during (.....).
A) Prophase B) Metaphase C) Anaphase D) Telophase

7- (.....) is a structure in mitochondria that contains enzymes involved in oxidative phosphorylation and electron transport systems.
A) Outer membrane B) Intermembrane space C) Matrix D) Cristae

8- In liver cells, the smooth endoplasmic reticulum plays a crucial role in (.....).
A) Protein folding B) Photosynthesis C) Detoxification processes D) Chromosome segregation

9- (.....) is a part of the nucleolus contains DNA sequences encoding rRNAs.

A) Nucleolar Organizer DNA B) Pars Fibrosa C) Pars Granulosa D) Nucleoplasm

10- Glycocalyx in the plasma membrane is primarily composed of (.....).

A) Proteins B) Lipids C) Carbohydrates D) Nucleic acids

11- (.....) is the division of the cytoplasm that completes the M phase of the cell cycle.

A) Meiosis B) Mitosis C) Cytokinesis D) DNA replication

12- Nuclear sap is a colloidal clear solution containing enzymes involved in (.....).

A) Glycolysis B) DNA and RNA synthesis C) Protein degradation D) Lipid synthesis

13- Which process is NOT associated with the Golgi apparatus?

A) Protein modification B) Lipid metabolism C) Secretion of proteins and lipids D) DNA replication

14- The accumulation of residual bodies in long-lived cells is known as (.....).

A) Autophagosomes B) Lipofuscin C) Ribosomes D) Lysosomes

15- Which of the following substances requires a transport protein to pass through the plasma membrane?

A) CO_2 B) Urea C) Na^+ D) H_2O

16- Which post-transcription involves the addition of poly-A tail to the 3 end of mRNA?

A) Exon shuffling B) Splicing C) Polyadenylation D) 5 cap addition

17- Glycosylation is the addition of .....to the protein.

A) Carbohydrate B) Lipid C) Fat D) Minerals

18- Ubiquitination is a PTM that marks proteins for degradation by the proteasome. What is the small protein involved in this process?

A) Ubiquitin B) Actin C) Hemoglobin D) Insulin

19- In prokaryotes, the ribosomal binding site on mRNA is called.....

A) Hogness sequence B) Pribnow sequence C) Shine-Dalgarno sequence D) TATA box

20- In prokaryotic translation, what is the role of the A site in the ribosome?

A) It is where the mRNA exits the ribosome B) It is where the ribosome binds to mRNA

C)It is the site of peptide bound formation D) It is where the next incoming tRNA binds

21- With the help of which of the following proteins does the ribosome recognize the stop codon?

A) Cleavage Factors (CF) B) Elimination Factors (EF)

C) Termination Factors (TF) D) Release Factors (RF)

22- The removal of the 5 cap or the poly- A tail from mRNA can lead to.....

A) enhanced transcription B) exon shuffling C) enhanced translation D) mRNA degradation

23- In eukaryotes, the removal of introns and joining of exons in pre- mRNA is a crucial post transcriptional modification called.....

A) Capping B) Polyadenylation C) Termination D) Splicing

24- The eukaryotic initiation codon recognizes.....

A) f-Met-tRNA-f-Met B) Met-tRNAi-Met C) f-Met-tRNAi-Met D) f-Met-tRNA-Met

25- In eukaryotes, transcription begins only when.....

A) RNA Strand is available. B) Core Promoter Sequence is available or present.

C) RNA Polymerase is available D) None of the above.

26- In both the Eukaryotic cell and Prokaryotic cell, the synthesis of protein chains is started with the.....

A) Arginine B) Methionine C) Serina D) Valine

27- Identify the correct statement regarding the function of ribonucleic acid (RNA).....

A) messenger RNA (mRNA) serves as a template for the synthesis of proteins

B) Transfer RNA (tRNA) serves as the adapter molecule for the addition of amino acids and elongation of the peptide chain

C) ribosomal RNA (rRNA) serves as machinery for protein synthesis

D) All of the above

28- RNA polymerase moves in which direction along the DNA?

A) 3′ → 5′ along the coding strand B) 5′ → 3′ along the double-stranded DNA

C) 5′ → 3′ along the template strand D) 3′ → 5′ along the template strand

29- A particular triplet of bases in the coding sequence of DNA is AAA. The anticodon on the tRNA that binds the mRNA codon is.....

A) TTT. B) UUA. C) AAA. D) UUU.

30- Which of the following statements is true about DNA polymerase?

A) DNA polymerase can synthesize mRNA in the 3' to 5' direction

B) DNA polymerase can synthesize mRNA in the 5' to 3'direction

C) DNA polymerase can synthesize DNA in the 5' to 3' direction

D) DNA polymerase can synthesize DNA in the 3' to 5' direction

31- What does DNA and RNA have in common?

A) Both contain deoxyribose
B) Both contain thymine.
C) Both contain phosphate groups
D) Both are single stranded.

32- DNA replication is.....

A) conservative
B) conservative and discontinuous
C) semi-conservative and semi-discontinuous
D) semi-conservative and discontinuous

33- Which of the following statements is true?

A) The Central Dogma states that DNA is the most important nucleic acid.
B) Hydrogen bonds can form between bases in a single RNA molecule.
C) cRNA is the copy created when DNA is transcribed into RNA.
D) tRNA transfers proteins to the cell membrane.

34- Watson and Crick were the first to suggest that DNA is.....

A) the shape of a double helix B) a short molecule C) a protein molecule D) the genetic material

35- Transcription is the transfer of genetic information from

A) DNA to mRNA B) DNA to RNA C) mRNA to tRNA D) tRNA to mRNA

36- During replication, Okazaki fragments elongate.....

A) lagging strand away from the replication fork
B) lagging strand towards the replication fork
C) leading strand away from the replication fork
D) leading strand towards the replication fork

37- The fragments of DNA are joined together by which of the following enzymes?

A) Ligase B) DNA polymerase C) Primase D) Endonuclease

38- Mt DNA is.....

A) simple single stranded circular DNA molecule
B) simple double stranded circular DNA molecule
C) simple double stranded linear DNA molecule
D) simple single stranded linear DNA molecule

39- During replication, exonuclease .....proofreads the newly synthesized DNA, remove and replace any error

A) DNA Pol β B) DNA Pol δ C) DNA pol ε D) All of them

40- .....has left-handed helix and the sugar-base backbone form Zig-Zag shape.

A) Z-form DNA B) A-form DNA C) B-form DNA D) A &B

Q2: Choose (T) for the correct statement and (F) for the false one on the provided bubble sheet. *(10 marks, one mark for each)*

41- Cyclins regulate the cell cycle in prokaryotic cells.

42- Hydrophobic molecules pass through the plasma membrane more easily than hydrophilic molecules.

43- The microtubules play a role in cell differentiation and determination of polarity.

44- There are two types of chromatins in the nucleus: euchromatin appears as dense granules, and heterochromatin appears less dense.

45- In the cell cycle, chromosomes are connected to spindle fibers at the centromere and lined up at the equator of the cell during prophase.

46- The size of ribosomes is measured in "Angstrom units".

47- The lipid bilayer molecules are oriented with their nonpolar regions in the core and polar regions in contact with the aqueous phase on either side of the plasma membrane.

48- Cancer cells often respond to the signals that normally regulate the growth of most cells.

49- Mitochondria has the ability for self-replication.

50- The cells would continue to grow and divide even after they came into contact with other cells.

End of Questions, With Our Best Wishes!

Prof. Dr. Mona M. Atia

Dr. Ahmad U. M. Mahmoud

امتحان الفصل الدراسي الثاني

للعام الجامعي ٢٠٢٣-٢٠٢٤م

القسم الذي يقدم المقرر: قسم الوراثة – كلية الزراعة – جامعة أسيوط

المقرر: (٤٠٢ ز) وراثة العشائر المستوى: الرابع – كلية العلوم (ساعات معتمدة)

لجنة الممتحنين: أ.د/ محمود أبو السعود الراوي أ.د/ محمد إبراهيم محمد الزمن: ساعتين

أجب عن جميع الأسئلة التالية: **(الامتحان مكون من ثلاث صفحات)** **الصفحة الأولى**

السؤال الأول:- قم بعمل جدول في كراسة الإجابة ثم ضع علامة (✓) أمام رقم العبارة الصحيحة وعلامة (×) أمام رقم العبارة الخاطئة: (٢٥ درجة)

١- إذا كانت تكرارات الطرز الوراثية بإحدى العشائر aa= 0.12 , Aa= 0.55 , AA=0.33 ، فإن هذه العشيرة تكون متزنة.

٢- في عشيرة إنسانية متزنة إذا كانت نسبة الإناث المصابة بالصلع 0.04 ، فإن نسبة الذكور الطبيعية في هذه العشيرة تساوي 0.20

٣- إذا كانت الأعداد المشاهدة بالنسبة لصفة ما في احدى العشائر aa= 40 , Aa= 320 , AA= 640 ، فإن هذه العشيرة تكون غير متزنة

٤- إذا كان 0.04 من أفراد عشيرة متزنة يظهرون الشكل المظهري لصفة متنحية يتحكم فيها موقع وراثي جسمي واحد، فإن التكرار المتوقع للأفراد السائدة الأصيلة يساوي 0.64

٥- إذا كانت تكرارات الأفراد لمجاميع الدم (ABO): A=0.39, B=0.25, AB=0.11, O=0.25، فإن تكرار الأليل I^A يساوي 0.30

٦- إذا كانت التكرارات الأليلية لجين مرتبط بالجنس $P_{(A)}$=0.35, $S_{(a)}$=0.15, ، فإن تكرار الأليل المتنحي a عند الاتزان يساوي 0.25

٧ إذا كانت مصفوفة الجاميطات بالنسبة لموقعين AB= 0.10, Ab=0.40, aB=0.30, ab=0.20، فإن تكرار الطراز الوراثي الخليط في الموقعين AaBb الناتج من هذه الجاميطات يساوي 0.14

٨- إذا كانت تكرارات أليلات مجاميع الدم (ABO) بإحدى العشائر: p = 0.40 , q = 0.50 , r = 0.10 فإن تكرار الطراز O يساوي 0.01

٩- إذا كانت تكرارات أليلات مجاميع الدم (ABO) بإحدى العشائر: p = 0.60 , q = 0.10 , r = 0.30 فإن تكرار الطراز AB يساوي 0.12

١٠- إذا كانت نسبة الإصابة بمرض عمى الألوان (مرتبط بالجنس) في الذكور 0.08 ، فإن النسبة المتوقعة للإناث المصابة تساوي 0.064

١١- إذا كانت تكرارات الطرز الوراثية بإحدى العشائر aa= 0.25 , Aa= 0.50 , AA=0.25 ، فإن قيمة f العشائرية تساوي صفر.

١٢- إذا كان تكرار الأفراد المتنحية aa في إحدى العشائر المتزنة 0.36 ، فإن تكرار الأفراد الخليطة في هذه العشيرة يساوي 0.48

أنظر الصفحة التالية ◄

محمود الراوي

١٣- إذا كان 0.19 من رجال عشيرة ما مصابون بالصلع baldness ، فإن نسبة الصلع المتوقعة بين نساء هذه العشيرة تساوي 0.01

١٤- من خصائص اتزان العشائر أنه في حالة وجود إثنين فقط من الأليلات لموقع جيني ما فإن أقصى تكرار للطراز الخليط يساوي 0.5

١٥- إذا اندمجت عشيرتان، تكرار الأفراد المتنحية aa في العشيرة الأولى 0.16 وفي العشيرة الثانية 0.04 فإن تكرار الأفراد aa في العشيرة المندمجة يساوي 0.10

١٦- إذا كان تكرار الأفراد السائدة مظهرياً لصفة ما في إحدى العشائر المتزنة 0.64 ، فإن تكرار الأليل المتنحي بالعشيرة يساوي 0.36

١٧- تعد الهجرة من القوى التي تؤثر على اتزان العشيرة حيث تعتبر من أسرع العوامل التي تؤدي إلى تغير التكرار الأليلي في العشيرة.

١٨- في حالة تجنب التربية الداخلية تزيد نسبة الأفراد الأصيلة وتقل نسبة الأفراد الخليطة في العشيرة وتكون قيمة f العشائرية موجبة.

١٩- عند اختلاف التكرار الأليلي لموقع مرتبط بالجنس بين الذكور والإناث تصل العشيرة إلى الاتزان بعد جيل واحد من التزاوج العشوائي.

٢٠- يؤدي التزاوج التشابهي Assortative mating بين الأفراد المصابين بالصمم deafness إلى زيادة نسبة الأفراد المصابة بالعشيرة.

٢١- إذا كانت العشيرة غير متزنة بالنسبة لموقع جيني جسمي ذو أليلين فإنها تصل إلى الاتزان بعد عدة أجيال من التزاوج العشوائي.

٢٢- يؤدي التزاوج اللاتشابهي Disassortative mating إلى زيادة نسبة الأفراد الخليطة بالعشيرة عن المتوقع وفقاً للتزاوج العشوائي.

٢٣- عند اختلاف التكرار الأليلي لموقع مرتبط بالجنس بين الذكور والإناث، فإن الفرق في التكرار الأليلي يزيد بمقدار الضعف في كل جيل من أجيال التزاوج العشوائي.

٢٤- في حالة الجينات المرتبطة بالجنس فإن الذي يحدد التكرارات الأليلية في الذكور هو التكرار الأليلي لأمهاتهم في الجيل السابق.

٢٥- أثر التزاوج اللا تشابهي على قيمة f يماثل التربية الداخلية ولكنه يقتصر على الصفة المحددة التي حدث على أساسها التزاوج فقط.

أنظر الصفحة التالية ◄

محمود الرك

السؤال الثاني:- (٨ درجات)

إذا كانت تكرارات الطرز الوراثية لمرض سيولة الدم (الهيموفيليا) المرتبط بالجنس في احدى العشائر الإنسانية كما يلي:

ذكور	
H	h
1 طبيعي	0 مصاب

إناث		
HH	Hh	hh
0.81 طبيعي	0.18 طبيعي	0.01 مصاب

١- احسب تكرارات الطرز الوراثية المتوقعة بعد جيل من التزاوج العشوائي.

٢- احسب التكرارات الأليلية المتوقعة بعد عدة أجيال من التزاوج العشوائي.

السؤال الثالث:- (٨ درجات)

إذا كانت تكرارات الطرز الوراثية باحدى العشائر $AA = 0.36$ $Aa = 0.48$ $aa = 0.16$

١- احسب التكرار الأليلي واختبر اتزان العشيرة.

٢- احسب تكرارات الطرز الوراثية إذا تعرضت العشيرة لتزاوج لا تشابهي بمعدل $f = -0.2$.

السؤال الرابع:- (٩ درجات)

لموقع جيني ذو ثلاثة أليلات (A, a, a') إذا كانت تكرارات الطرز الوراثية بإحدى العشائر كما يلي:

الطراز الوراثي	AA	Aa	Aa'	aa	aa'	a'a'
الأعداد المشاهدة	0.10	0.20	0.40	0	0.20	0.10

١- احسب تكرارات الأليلات الثلاثة (A, a, a').

٢- احسب تكرارات الطرز الوراثية المتوقعة عند الاتزان.

انتهت الأسئلة مع أطيب التمنيات بالنجاح

لجنة الممتحنين: أ.د/ محمود أبوالسعود الراوي — أ.د/ محمد إبراهيم محمد

محمود الراوي

جامعة أسيوط - كلية العلوم
قسم علم الحيوان

اختبار مادة البيئة المائية ٣٢٣ح ٢٠٢٣-٢٠٢٤

الزمن: ساعاتان.

أجب عن الأسئلة الآتية: س١: اختـــر الإجابة الصحيحة من بين الأقواس ثم اطمس الدائرة المقابلة في ورقة الإجابة المعدة لذلك بالقلم الجاف:

1- The River Nile is included under: a-(lentic) b–(lotic) c-(wetlands) d-(all mentioned before are false) waters.

2-Very deep lakes may have thermal stratification that depends on: a-(erosion processes) b–(temperature) c-(Light) d–(all mentioned before are false).

3- Chemicals in lakes, streams, estuaries and wetlands may exist as: a-(simple molecules) b-(complex combinations of organic compounds) c-(complex combinations of inorganic compounds) d-(all).

4-Copepods are considered as: a-(nekton) b-(zooplankton) c-(benthos) d-(all).

5-Organisms found in marine habitat include: a-(Insect larvae) b-(bivalves) c-(cephalopods) d-(all).

6- The last step in eutrophication of aquatic ecosystem is: a-(increasing of minerals like phosphate) b-(algal blooming) c-(formation of detritus) d-(destruction of the aquatic ecosystem).

7- High BOD means: a-(less of carbon dioxide) b-(less of organic material) c-(lots of salts) d–(all mentioned before are false).

8- The star fish is considered as: a-(epibenthic) b-(infauna) c-(zooplankton) d–(all).

9- The identity and quantity of minerals suspended in the lake are affected by: a-(the nature of the parent rock) b-(slope of the lake) c-(acid rains) d-(all).

10-Optimal reef development occurs where the mean annual temperature is about: a-(32:35) b-(30:35) c-(30-35). d-(all mentioned before are false).

11- a- (producers) b- (Nekton) c- (zooplankton) d- (benthos) is considered as a factor required by any aquatic ecosystem.

12- The common nutrients needed in large quantities for cell development include: a-(CO2) b- (No3) c-(SIO2) d-(all).

13- a-(streams) b-(lakes) c-(estuaries) d-(seas) have stagnant water.

14- The last step in eutrophication of aquatic ecosystem is a-(the increasing of nutrients) b-(algal blooming) c– (death of most organisms) d- (all).

15- The shallow water in marine habitat is the: a-(neritic Zone) b–(the benthic) c–(the oceanic zone) d- (the photic zone).

16- The producers in the Hadopelagic zone include a-(Zooplankton) b–(Phytoplankton) c–(bacteria) d–(all).

17- a-(Epilimnion) b-(Metalimnion) c-(Hypolimnion) d-(all) is the hottest portion of the lake.

18- Coral reefs development is harmed by: a-(strong wave action) b–(high transparency) c-(increasing of oxygen) d-(all mentioned before are false).

19- a-(Salt water) b–(Freshwater ecosystem) c-(Lakes) d-(all) covers 71.0% of the Earth's surface .

20- pH in aquatic habitat is considered as: a-(biotic factor) b–(chemical factor) c-(living factor) d-(all).

21-The middle step in eutrophication of aquatic ecosystem is: a-(the increasing of minerals like nitrate) b-(algal blooming) c-(formation of detritus) d-(all).

22-Eutrophication of aquatic ecosystem can: a- (increase biodiversity) b-(reduce biodiversity) c- (reduce carbon dioxide in aquatic habitat) d- (all).

اقلب الصفحة من فضلك

23-The producers in deep aquatic habitat include a-(Zooplankton) b–(Phytoplankton) c–(benthos) d–(all mentioned before are false).
24-Increasing of acid rains at certain aquatic habitat will decrease a-(erosion of buildings) b- (erosion of railways) c- (breathing diseases) d- (all mentioned before are false).
25-Flourishing of the coral reefs in The Red sea will decrease a-(productivity of the sea) b-(number of organisms inhabiting the sea) c-(microhabitat for organisms) d- (all mentioned before are false).
26- Collecting all producers in an aquatic habitat will a-(destroy the ecosystem) b- (flourish animals) c-(increase populations in the habitat) d- (all).
27- Increasing turbidity of water in the Red Sea will a-(increase zooplankton) b- (decrease corals) c-(increase transparency of water) d-(all).
28- Adding sewage water to the River Nile: a-(will increase dissolved oxygen in water) b-(increase algal blooming) c-(increase productivity of the Nile) d- (all).
29- A high BOD means: a-(less of organic materials) b-(lots of organic material) c-(lots of salts) d–(all).
30- Acid rains in some countries are products of increasing a-(Co2) b-(nitric oxides) c-Sulphur oxides d-(all) in the air.

س٢: ضع علامة صح أمام العبارة الصحيحة (T=True) وعلامة خطأ (F=False) أمام العبارة الخاطئة ثم ثم اطمس الدائرة المقابلة في ورقة الإجابة المعدة لذلك بالقلم الجاف:

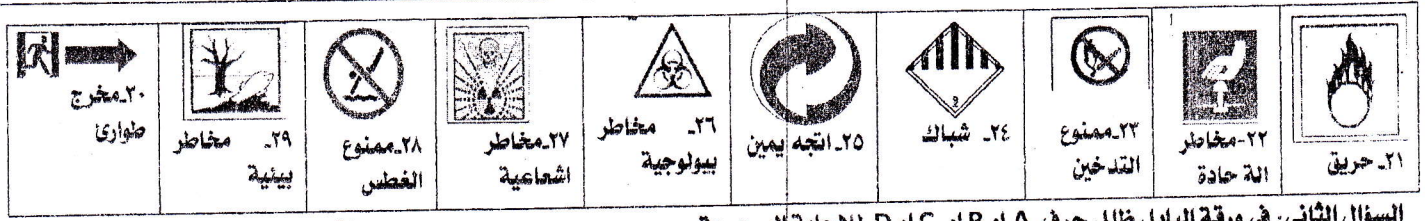
31- Ahermatypic corals are cosmopolitan in distribution ( ).
32-Decreasing of alkalinity of soil can occur as a result of acid rains ( ).
33-Acetate and glycolate are organic compounds providing food for microbes ( ).
34-Oxbow lakes occur at high latitudes as a result of extensive meanders of rivers ( ).
35-Humic acid and Citrate are produced by decomposition of dead animals in lakes and streams ( ).
36-Euryhaline organisms are widely tolerant for salts in the aquatic ecosystem ( ).
37-Algae are the only autotrophic organisms in aquatic ecosystems ( ).
38-Fe- Zn act as toxicants or as growth stimulators ( ).
39-Light is considered one of the limiting factors of corals that restricts their distribution in the estuaries( ).
40-The intertidal zone is the bottom or deep water ( ).
41-Temperature is the limiting factor of corals that restricts their distribution in tropical regions ( ).
42-Chelating compounds can reduce free radicals in the aquatic ecosystem ( ).
43-Freshwater ecosystem generates 5% of the world's net primary production ( ).
44-Estuaries are a good source for increasing productivity of the oceans ( ).
45- Humic acid belongs to the refractory compounds in natural waters ( ).
46-The littoral zone is the open water of the lake ( ).
47-BOD Measures the rate of carbon dioxide consumption by a sample of water ( ).
48-The chemocline is the portion of the lake where the rate of temperature change with depth is the greatest ( ).
49-Wetlands are the areas where the soil is unsaturated or inundated for at least part of the time ( ).
50-Acid rains in some countries are products of increasing organic compounds in the air ( ).

With best wishes

امتحان نهاية الفصل الدراسي لجميع المستويات المقرر: أخلاقيات المهنة والسلامة المهنية رقم المقرر ورمزه: F300	جامعة أسيوط كلية العلوم جامعة اسيوط	الزمن: ساعتان ٣ يونيـــة ٢٠٢٤ الاجابة في ورقة البابل

السؤال الاول: في ورقة البابل ظلل (T) للعبارة الصحيحة أو ظلل (F) للعبارة الخاطئة لما يأتي: (٣٠ درجة)

١- الميثاق الأخلاقي: مجموعة من القيم التي تسعى المؤسسة للالتزام بها اثناء العمل.	١١- يؤدي النهوض بالملكية الفكرية الي دفع عجلة التنمية الاقتصادية
٢- من مبادئ واخلاقيات مهنه التعليم الثقة والاحترام المتبادل	١٢- الخبرة والسلامة من أخلاقيات البحث العلمي
٣- اعـــرف اكثر عن علامات السلامة المهنية فهي لغة عالميـــة	١٣- أن تضيء شمعة صغيرة خير لك من أن تلعن الظلام.
٤- التخلص من مخلفات المعامل يكون بالحرق الآمن ودفن الرماد في مدفن آمن	١٤- احرص على التدريب فهو نشاط منظم لتحسين الأداء الوظيفي
٥- التقرير هو عرض كتابي او شفوي مركز لموضوع معين يقدمه فرد او مجموعه	١٥- الالتزام بالأخلاقيات يقوم السلوك. والاهتمام بالسلامة يحمي الحياة.
٦- Code of Ethics تعني اخلاقيات المهنة والسلامة المهنية	١٦- الدفاع عن شرف المهنة ليس من مبررات إفشاء الأسرار المختبرية
٧- احرص على الجودة في عملك فالجودة لها سقف	١٧- اللون الازرق في العلامات الارشادية يعني ممنوع
٨- يعد سرقة علمية استخدم افكار من موقع على الانترنت والاشارة اليه	١٨- تعرف الكوارث بأنها حوادث غير مفاجئة لقوى الطبيعة او الانسان
٩- معرفة علامات السلامة المهنية من المهارات المهنية المكتسبة للمقرر	١٩- عند حدوث الزلزال يجب تدريب العاملين
١٠- ضرورة استخدام معدات الوقاية والسلامة الشخصية بعد العمل.	٢٠- المفاجأة و الاضطراب والارتباك ليست من سمات الطوارئ والازمات



٢١- حريق | ٢٢- مخاطر الة حادة | ٢٣- ممنوع التدخين | ٢٤- شباك | ٢٥- اتجه يمين | ٢٦- مخاطر بيولوجية | ٢٧- مخاطر اشعاعية | ٢٨- ممنوع الغطس | ٢٩- مخاطر بيئية | ٣٠- مخرج طوارئ

السؤال الثاني: في ورقة البابل ظلل حرف A او B او C او D للإجابة الصحيحة: (٢٠ درجات)

٣١- مقرر اخلاقيات المهنة Scientific Ethics يتناول اخلاقيات مهنة (A- العلميين – B الاطباء – C المهندسين – D كل ما سبق)

٣٢- من اساسيات تجهيز مختبرات الكيمياء (A- وجود شفاطات هواء - B- وجود كراسي - C- وجود سلالم - D- كل ما سبق)

٣٣- .....هو كمية المادة التي تؤدي لوفاة نصف مستخدميها اذا تم تناولها دفعة واحدة (A- LD50 - B- LOL - C- LEL - D- LC50)

٣٤- من الآداب العامة لمزاولة مهنه المختبرات الطبية (A- الخبرة - B- الزهو - C- الدعاية الشخصية - D- كل ما سبق)

٣٥- مجموعه من الوظائف المتشابهة التي يمكن أن يقوم بها فرد واحد عند اللزوم (A- العمل - B- المهنة - C- الوظيفة – D- كل ما سبق)

٣٦- من الأساليب التي يمكن اللجوء اليها في إدارة الأزمة (A- المناورة والالتفاف B- الضغوط الاقتصادية C- الدبلوماسية D- كل ما سبق)

٣٧- من طرق علاج الشائعات (A- المنطقية في التعامل - B- نشر الحقائق - C- التوعية - D- كل ما سبق)

٣٨- من الأهداف العامة التي تسعى السلامة والصحة المهنية لتحقيقها (A- حماية الممتلكات B- حماية الافراد - C – العمل بأمان - D – كل ما سبق)

٣٩- MSDS لأي مادة أو جهاز هامة لسلامة (A- الجهاز - B- المستخدم - C- المادة - D- كل ما سبق)

٤٠- من عوامل ادارة الازمة (A- اتخاذ القرار المناسب في الوقت المناسب B- ضبط النفس - C- التدريب D- كل ماسبق)

٤١- التبايغ فورا في حالة اكتشاف تحاليل ايجابية لمرض (A- الجرب – B- شلل الأطفال - C- الكوليرا – D- كل ما سبق)

٤٢- عدد الدرجات الوظيفية في الجامعات المصرية (A- ٤ B- ٥ – C- ٦ – D- ٧)

٤٣- يجب ان تحتوى شنطة الاسعافات الأولية على (A- ملينات - B- مقلصات - C- قطن طبي وشاش - D- كل ما سبق)

٤٤- الرعاف هو (A- صدمة عصبية B- رعشة الجسم - C- نزيف دموي من الانف – D- كل ما سبق)

٤٥- من الخطوات الرئيسية عند تنفيذ عملية مواجهة الكوارث (A- الانذار والتحذير – B- الاخلاء - C- الايواء - D- كل ماسبق)

٤٦- من نفايات المعامل (A- اطباق مزارع بكتيرية - B- نفايات كيمائية - C- بقايا احياء بريه - D- كل ما سبق)

٤٧- من مجالات الاخلاقيات البيولوجية (A- تأجير الارحام B- القرصنة البيولوجية – C- سرقة الجينات – D- كل ما سبق)

٤٨- من انواع الشائعات (A- الشائعة البطيئة – B- الشائعة السريعة - C- الشائعة الاستطلاعية - D- كل ما سبق)

٤٩- Plagiarism يعني (A- الانتحال - B- الاقتباس – C- البحث – D- كل ما سبق)

٥٠- من يعد ميثاق اخلاقيات المهنة ؟ (A- فريق عمل - B- رئيس المؤسسة C- الطلاب – D- كل ما سبق)

انتهت الأسئلة

مع تمنياتي بالتفوق

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Assiut University
Faculty of Science
Zoology Department

2024

Final exam
Course number: 324 Z
Protozoology and Parasitology
Time: 2 hours

Answer the following question (Total 50 marks)

A- Select the single best answer for each of the following (1 marks/ each)

1. The infective stage of *Loa Loa* is

(a) Filariform larvae (b) Embryonated egg

(c) Microfilaria (d) Cysticercoid

2. Human acts as an intermediate host of the following parasites except

(a) *Taenia solium* (b) *Toxoplasma gondii*

(c) *Echinococcus granulosus* (d) *Wuchereria bancrofti*

3. Which of the following parasites can be reactive in immunosuppressed hosts

(a) *Enterobius vermicularis* (b) *Clonorchis sinesis*

(c) *Toxoplasma gondii* (d) *Balantidium coli*

4. Which of the following parasites can cause deficiency in vitamin B12

(a) *Ascaris lumbercoides* (b) *Loa Loa*

(c) *Diphyllobothrium latum* (d) *Schistosoma haematobium*

5. Cercariae of *Schistosoma* and *Fasciola* are different in the following except

(a) Tail (b) Penetrating glands

(c) a & b (d) Alimentary canal

6. The infective stage of *Naegleria fowleri* is

(a) Cyst stage (b) Amoeboid form of trophozoite

(c) Flagellated form of trophozoite (d) Embryonated egg

7. The viviparous parasite is

(a) *Wuchereria bancrofti* (b) *Enterobius vermicularis*

(c) *Ancylostoma duodenale* (d) *Ascaris lumbercoides*

8. Which of the following parasites correlated to neurological manifestations

(a) *Enterobius vermicularis* (b) *Balantidium coli*

(c) *Acanthamoeba castellanii* (d) *Heterophyes heterophyes*

9. Which of the following stages in *Plasmodium* spp. has penetrating glands?

(a) Trophozoite (b) Ring stage

(c) Ookinete (d) Oocyst

10. Humans get infected with the hydatid cyst of *Echinococcus granulosus* when they ingest

(a) a flea that contains the larval tapeworm (b) the tapeworm egg from dog feces

(c) the tapeworm cysticercus from raw beef (d) the tapeworm egg from human feces

11. Quadrinucleated cyst is an infective form of

(a) *Entamoeba coli*
(b) *Balantidium coli*
(c) *Giardia lamblia*
(d) *Trichomonas hominis*

12. The operculated egg is a diagnostic stage of

(a) *Schistosoma mansoni*
(b) *Taenia saginata*
(c) *Ancylostoma duodenale*
(d) *Diphyllobothrium latum*

13. Large trophzoite of *Entamoeba histolytica* feeds on

(a) RBC and mucosa
(b) blood
(c) Digested food
(d) Mucosa in the colon

14. Amastigotes in *Leishmania* sp are present in

(a) WBCs
(b) RBCs
(c) Plasma
(d) Sand fly

15. Autoinfection could be propagated by

(a) *Taenia solium*
(b) *Schistosoma haematobium*
(c) *Fasciola hepatica*
(d) *Trichomonas vaginalis*

16. All the following are different between Pseudophyllidae and Cyclophyllidae except

(a) Location of genital pore
(b) The shape of ovary
(c) The adhesion organs
(d) They have no digestive system

17. All the following parasites can be transmitted congenitally except

(a) *Trypanosoma cruzi*
(b) *Toxoplasma gondii*
(c) *Plasmodium* spp.
(d) *Giardia lamblia*

18. Diagnostic stage of *Plasmodium* spp. in human blood is

(a) Ring stage
(b) Sporozoites
(c) Merozoites
(d) Oocyst

19. Amoebic meningitis is a disease that can be caused by

(a) *Entamoeba histolytica*
(b) *Naeglaria fowleria*
(c) *Entamoeba gingivalis*
(d) *Entamoeba coli*

20. Coracidium is a larval stage in

(a) *Echinococcus granulosus*
(b) *Taenia saginata*
(c) *Diphyllobothrium latum*
(d) *Schistosoma mansoni*

21. Which one of the following can be infect human incidentally?

(a) *Diphyllobothrium latum*
(b) *Dipylidium caninum*
(b) *Fasciola hapatica*
(d) *Clonorchis sinesis*

22. The infective stage of *Ascaris lumbercoides* is

(a) Embryonated egg (b) Microfilaria

(c) Filariform larva (d) bladder worm

23. The filaria worm Loa Loa can be infected

(a) Lymphatic system (b) Subcutaneous tissues

(c) Central nervous system (d) Serous cavity

24. Contaminated green salad causes infection with

(a)*Trypanosoma* spp. (b) *Plasmodium* spp.

(c) *Ascaris lumbercoides* (d) *Trichomonas vaginalis*

25. Each of the following parasites are transmitted by mosquitoes except

(a) *Leishmania donovani* (b) *Plasmodium falciparum*

(c) *Plasmodium vivax* (d) *Wuchereria bancrofti*

26. Each of the following statements concerning *Ascaris lumbricoides* is correct except

(a) *Ascaris lumbricoides* is one of the largest nematodes

(b) *Ascaris lumbricoides* can cause pneumonia

(c)Both dogs and cats are intermediate hosts of *Ascaris lumbricoides*

(d) *Ascaris lumbricoides* are transmitted by ingestion of embryonated eggs

27. The infective form of *Leishmania* is

(a) Promastigotes (b) Epimastigotes

(c) Metacyclic trypansoma (d) Crithidia form

28. The infective stage of *Ancylostoma duodenale* is

(a) Rhabdtoid larva (b) Embryonated egg

(c) Filariform larva (d) Fertilized egg

29. The intermediate host of *Echinococcus granulosus* is

(a) Man (b) Cattle

(c) Sheep (d) All of the above

30. Two hosts are required in the following parasites except

(a) *Fasciolepsis buski* (b) *Dipylidium caninum*

(c) *Echinococcus granulosus* (d) *Enterobius vermicularis*

B- Mention which (True) or (False) of the following sentences (1 mark/each)

31. The crithidial form in *Trypanosoma* spp. has undulating membrane ( )

32. *Dipylidium caninum* can infect man accidentally ( )

33. Cattle infects with liver flukes by consumption of metacercaria with food ( )

34. All cercariae may have both penetration and cystogenous glands ( )

35. *Ascariasis* and *Enterobiasis* are more prevalent in children ( )

36. Redia is a larval stage in *Schistosoma mansoni* ( )

37. *Naegleria fowleri* is permanent parasite of man ( )

38. *Trichomonas vaginalis* has four anterior flagella and one posterior flagellum ( )

39. Mutualism is an association between two organisms that is necessary for both and from which both benefit ( )

40. Chagas disease is caused by *Trypanosoma rhodesiense* ( )

41. Autoinfection can occur in *Hymenolepis nana* ( )

42. *Schistosoma haematobium* inhibits the vesicular venous plexuses ( )

43. Parasites which are to a given host, but in abnormal situation are obligatory parasites ( )

44. Human, cats, and dogs are definitive hosts of *Heterophyes heterophyes* ( )

45. The diagnostic stage of *Fasciola gigantica* is eggs in feces ( )

46. *Plasmodium* sp. can be diagnosed through thin blood film ( )

47. Facultative parasites are those that attack or establish themselves in unusual host. ( )

48. Oocyst is the zygote after the formation of the cyst wall ( )

49. Eosinophilia is a common diagnosis of parasitic disease ( )

50. Costa is a cytoplasmic structure seen at the base of undulating membrane of intestinal flagellates ( )

Good luck**.....** ***Prof. Dr., Gamal H. Abed***
Dr. Sara S. Abdel-Hakeem