


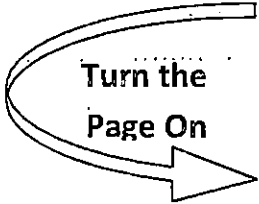
TANTA UNIVERSITY, FACULTY OF SCIENCE, BOTANY DEPARTMENT		
Examination for level 2 Students (Biotechnology)		
Course title:	Mycology and Plant pathology	Course Code: BT223
DATE: 20 / 1 / 2021	TERM: FIRST	TOTAL ASSESSMENT MARKS: 60
		Time Allowed: 2 hours

Answer the following questions: (note: Answer Q1 and Q2 in the electronic sheet)

Q1- Mark True or False for the following sentences and correct the false one: (10 marks)

- 1- *Taphrina* sp. causes clubroot disease.
- 2- Classification of fungi by Tedersoo *et al.* (2018) was according to microscopic structures, morphological and molecular identification.
- 3- Types of gametes in fungi are zygospores and ascospores
- 5- Number of Subkingdoms of kingdom Fungi are ten.
- 6- Infection of plant with diseases depend on the presence of virulent pathogen, susceptible host and favourable environmental conditions.
- 7- *Plasmodiophora* sp. present in the soil as plasmodium.
- 8- Obligate fungi which live on dead organic.
- 9- Fungi which can live on dead organic matter and can infecting living organisms called obligate saprobes....
- 10- Mass of hyphae is called mycelium.
- 11- Asexual reproduction in fungi does not involve the union of nuclei.
- 12- Asexual reproduction takes place under unfavourable conditions.
- 13- When the hypha breaks up into small fragments that is called fragmentation.
- 14- Endogenous spores called conidia.
- 15- Non-motile spores called aplanospores.
- 16- Exogenous spores called sporangiospore.
- 17- Asexual reproduction in *Rhizopus* sp. occurs by gametangia copulation.
- 18- Resistant plant is the resistant plant to disease.
- 19- Dissemination of the pathogens is the releasing of the spores.
- 20- Hyperplasia is the increasing size of the host cells.

Turn the
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Q2- Select the correct answer:(a or b or c or d) (10marks)

1)Mucoromyceta produce : a) Septate hyphae. b)Non-septate hyphae.c)Binucleatehyphae.
d)Conidia.

2) Sexual spores of *Rhizopus* sp. are:a) Oospores. b) zygozspores. c)Basidiospores.
d) Ascospores.

3) Gametangium contains: a) Spores. b) Gametes. c) Conidia. d) zygozspores

4)Planospores in fungi are: a) Motile spores. b) Non-motile spores. c) Oospores.
d) non of them.

5) Fusion of antheridium and oogonium produce: a) Zygozspore. b) Oosporec)Ascospore.
d) Basidiospores.

6)Fusion of antheridium and ascogonium produce: a) Basidiosporesb)Ascospores
c)conidia. d) Zygozspores.

7)Copulation of two hyphae produce:a) Ascospores. b) Zoospores. c) Zygozspores.
d)Conidia.

8)-PhylumBasidiomycota from subkingdom: a) Dikarya .b)Zopagomyceta.
c) Mucoromyceta . d) Olpidiomyceta.

9)-*Allomyces* sp. produces : a) Anterior uniflagellate zoospores b)Posterior uniflagellate
Zoospores c) Biflagellate zoospores. d) non of them.

10)-Damping off disease caused by a) *Claviceps* sp.b)*Taphrina* sp.c)*Pythium* sp.
d) *Aspergillus* sp.

11)-*Claviceps* sp. overwintering as : a) Oospores. b) Sclerotia . c) zygozspores. d) Ascospores.

12)Plasmodiophora sp. overwintering in the soil as : a) Resting spores. b) Zygozspores.
c) Ascospores. d) Oospores.

13)Resistant sporangium in *Allomyces* sp.called a) Mitosporangium. b) Meiosporangium.
c) conidium. d) Sporangium.

14)Familyof *Rhizopus* sp. is :a) Blastocldiaceae. b) Mucoraceae. c) Eurotiaceae.
d) Erysiphaceae.

15)-Sexual organs in fungi called : a) Conidia. b) Gametangia. c) Gametes. d) Spores.

16)-Copulation of two nuclei in the same cell present in class : a) Eurotiomycetes.

b)Taphrinomycetes. c)Erysiphomycets. d)Saccharomycetes.c

17)-Class Hyphomycetes from subphylum : a) Deuteromycotina. b) Pezizomycotina.
c) Taphrinomycotina d) Saccharomycotina.

18)-*Erysiphe sp.* from subkingdom : a) Zoopagomyceta b) Dikarya. c) Mucromyceta.
d) Blastocladiomyceta.

19-Subphyla of non-basidiocarbic basidiomycota : a) Agaricomycotina. b) Gastromycotina.
c) Pucciniomycotina. d) Ustilagomycotina.


20-Infection of flowers interferes with : a) Reproduction b) Absorption of
water c) Translocation d) Photosynthesis

(Q3) Write on Three of the following:

(40 mark)

- 1- Formation of Ascocarps in Ascomycota and compare between two types of them.
- 2- Classification of *Allomyces sp.* and *Physarum sp.* by Tedersoo *et al.* (2019) and describe the life cycle of one of them:
- 3- Difference between Epigean and Hypogean Pezizomycetes.
- 4- Write the symptoms of Ergot disease caused by *Claviceps sp.* and describe the stages of the disease cycle.
- 5- The mechanisms by which *Plasmodiophora sp.* and *Pythium sp.* cause the diseases.

Prof. Dr. Omya Ahmed

	Tanta University Faculty of Science Department of Botany		
	EXAMINATION for level 2 Students of Biotechnology		
Course title:	General Plant Ecology & Biodiversity	Course Code: BO "T227"	
Date: 8/3	2021	Term: First	Total assessment Marks: 60 Time ALLOWED: 2 ours

Five degrees of each point (5x6=30 degree)

- 1- Compare between the ecological resilience and ecological resistance.
- 2- What is the difference between the direct and indirect benefits offered by the ecosystems (give some examples)?
- 3- Imagine a design for a natural reserve, and indicate the role of each zone of it.
- 4- Compare between the strict natural reserve and the national park as 2 types of natural reserves.
- 5- Explain the role of Law No. 102/1983 for the conservation of biodiversity in the Egyptian natural reserves.



1- Draw only with label the following : (10 degrees)

- 1- Single channel model and Universal model of energy flow
- 2- Gaseous cycle and sedimentary cycle . (one for each)

2- MCQ: (20 degree)

- 1- Light, heat, energy are
a) biotic factor b) abiotic factor c) both a,b d) food web
- 2- Ability to do work is.....
a) ecosystem b) food chain c) energy d) not of all
- 3- Decomposers are
a) heterotrophic b) autotrophic c) both a,b d) not of all
- 4- Herb → cattle → man is..... food chain
a) long b) short c) productivity d) both b,c

- 5- Carnivores are.....
- a) 2nd producer b) 1ry producer c) 2nd consumer d) 3ry consumer
- 6- Omnivorous feed on.....
- a) herbs b) meat c) both a,b d) debris of food
- 7-food chain are important for fast recycling of food material
- a) detritus b) grazing c) both a,b d) non of all
- 8- Long food chain isproductivity although short food chain is.....productivity
- a) greater, less b) less, greater c) both b,c d) less, the same
- 9- Group of population is.....
- a) individual b) biosphere c) ecosystem d) both b,c
- 10- energy does not corruptible and does not create is.....
- a) first law b) second law c) trophic level d) both a,b
- 11- Atmospheric temperature known asphenomenon
- a) green house b) yellow house c) grey house d) red house
- 12- The geographical area in which the organism live is.....
- a) environment b) ecology c) habitat d) eco-land
- 13-total number of individual of population in the same habitat in a specific time period
- a) population level
b) density of population c) reproduction rate d) migration
- 14-play an essential role in the sulfur cycle process
- a) macroorganism b) megaorganism c) both a,b d) microorganism
- 15- Birth + migration..... population density
- a) decrease b) increase c) lack d) both a,c
- 16-.....density number of individual in only inhabited area
- a) raw density b) crude density c) ecological d) both a,b
- 17- Lack of density result as.....
- a) competition b) predation c) disease d) all a,b ,c
- 18- Saturation point is.....
- a) max density b) max no. of individuals c) min density d) both a,b
- 19- Ratio of various age groups in a population is.....
- a) carrying capacity b) age structure c) migration d) crude density
- 20- Include knowledge about formation of soil ,physical properties isfactor
- a) climatic b) topographic c) edaphic d) both a,b

 TANTA UNIVERSITY, FACULTY OF SCIENCE, BOTANY DEPARTMENT		
Final Examination for level 2 Students (Biotechnology)		
Course title:	PHOTOSYNTHESIS AND CELLULAER RESPIRATIONAND	Course Code: BT225
DATE:17-3-2021	TERM: FIRST	TOTAL MARKS:60 ASSESSMENT
		Time Allowed:2 hours

1- Complete the following: (15 marks)

- The role of carotenoids in photosynthesis is.....
- The differences between photorespirationand normal respiration are.....
- Red drop is.....
- The transketolase reactionin calvin reduction cycle are.....
- The required conditions for cyclic photophosphorylation are.....

2- Give accounts of the following: (15 marks)

- Structure and function of phycobillins
- Regeneration phase in Calvin cycle.
- Reactions of photorespiration

3- Choose the correct answer: (30 marks)

- The final electron acceptor in aerobic respiration is:
 - Pyruvate
 - CO₂
 - O₂
 - NAD
- The net results of the breakdown of glucose in glycolysis is the production of:
 - 38 ATP
 - 36 ATP
 - NADH
 - 2ATP
- What stage of aerobic respiration requires ATP
 - Glycolysis
 - Krebs cycle
 - electron transport chain
 - None of the above
- Most ATP produced in aerobic respiration occurs in the process of:
 - Glycolysis
 - Chemiosmosis
 - Krebs cycle
 - Acetyl-CoA formation
- What is a reactant for electron transport chain?
 - NADPH
 - ATP
 - Oxygen
 - Water
- What are the products of fermentation in plant cells?
 - CO₂ , lactate
 - O₂, ethanol, ATP
 - CO₂, ethanol and ATP
 - Acetyl CoA
- What is the product of the Electron transport chain?
 - CO₂
 - O₂
 - H₂O
 - C₆H₁₂O₆
- What is the only useable form of energy?
 - ADP
 - Glucose
 - ATP
 - Sugar
- What is needed from Krebs Cycle in order for the electron transport chain
 - ATP
 - FADH₂
 - CO₂
 - H₂O

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10- What enzyme in the ETC is responsible for generation of ATP?

- a- Kinase b- ATPase c- aldolase d-None of the above

11- Where is the electron transport chain happen?

- a- Matrix b- Crista c- Outer membrane d- cytoplasm

12- In aerobic respiration, the energy in 1 mole of glucose is capable of producing how many ATP molecules

- a- 2 b- 38 c- 4 d- 34

13- Glycolysis is:

- a. $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$
b. $C_6H_{12}O_6 + 6O_2 \rightarrow 2C_2H_5OH + 2H_2O$
c. $C_6H_{12}O_6 \rightarrow 2C_3H_4O_3 + 4H$
d. $C_3H_4O_3 + NADH \rightarrow C_2H_5OH + CO_2 + NAD^+$

14- Conversion of pyruvic acid into ethyl alcohol is facilitated by the enzyme

- a-Carboxylase b. Phosphatase c. Dehydrogenase d. Carboxylase and dehydrogenase

15- The Electron transport chain receives electrons from:

- a. FADH₂ b. FAD c. NAD d. ADP

16- When the H⁺ re-enter the matrix, they activate an enzyme called:

- a- cytochrome oxidase b. pepsin c. ATP synthase d. protease

17- Which of the following statements about the TCA cycle is correct?

- a. Oxygen is used to oxidise the acetyl group carbons of acetyl-CoA in the TCA cycle
b. Three molecules of NADH and one molecule of FADH₂ are produced in one turn of the TCA cycle
c. Oxygen is not used in the TCA cycle, so the cycle can occur in anaerobic conditions.
d. The TCA cycle produces the water that is formed during the complete oxidation of glucose

18- Protons accumulate on the _____ in mitochondria.

- a. Inner membrane c. Outer membrane
b. Intermembrane space d. None of the above

19- Oxidative phosphorylation usually refers to _____

- a. Anaerobic production of ATP c. Alcoholic fermentation
b. Citric acid cycle production of ATP d. None of the above

20- An important product of the Krebs cycle is

- a. Water c. ATP
b. Methane d. None of the above

21- Acetyl CoA forms a 6-C compound after combining with

- a. Oxygen c. Citric acid
b. Pyruvic acid d. Oxaloacetic acid

22- In the mitochondrial electron transport system, the term Complex111 refers

- a- NADH dehydrogenase c- FADH₂ dehydrogenase
b- Cytochrome C d- Cytochrome E

23- Formation of GTP is occurs during the conversion of:

- a- Conversion of succinyl CoA to succinate c- alpha -Ketoglutarate to succinyl CoA
b- Isocitrate into alpha -Ketoglutarate d- Malate into oxaloacetate

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- 24- Alcoholic fermentation is observed in case of:
- a- Muscles undergoing vigorous exercise
 - b- Anaerobic Bacteria
 - c- Yeast
 - d- Cancer cell
- 25- - Find the wrong one about Glycolysis
- a- Occur in cytoplasm
 - b- Is present in all living organisms
 - c- Partial oxidation of Glucose
 - d- 2 C pyruvate is formed as a result of glycolysis
- 26- When proteins are used as respiratory substrate, the respiratory quotient would be about:
- a- 1.2
 - b- 1
 - c- 0.9
 - d- 0.7
- 27- Which one is correct sequence occurring in glycolysis?
- a- G-6-P--- PEP-----3-PGAL----3-PGA
 - b- G-6-P----3-PGAL----- 3-PGA----PEP
 - c- G-6-P---PEP----3.PGA----3. PGAL
 - d- G-6-P----3.PGA---3. PGAL----PEP
- 28- All the living organisms do have
- a- Glycolysis
 - b- TCA
 - c- ETC
 - d- Oxidative phosphorylation
- 29- The source of phosphate in conversion of PGAL to BPGA is:
- a- Inorganic phosphate
 - b- ATP
 - c- ADP
 - d- AMP
- 30- During glycolysis , which of the following substrate undergo isomerization
- a- Glucose-6- phosphate
 - b- Fructose-6-phosphate
 - c- Triose phosphate
 - d- Phosphoglycerate