



Summer Semester- Final Examination

Subject: Course B 271 (Bacteriology)

Students: (Microbiology; Chemistry and Microbiology sections)

General Instructions: -Answer the following questions in space provided.

Q1. Place a tick ✓ in the correct answer (Ten only). 10 Marks

- 1 Which of the following is affected by Penicillin?
a. Transpeptidase b. phosphoenol pyruvate c. Rasmase d. Synthetase
2. Which of the following lacked in Gram-positive bacteria?
a. Mucopeptide b. Plasma membrane c. Outer membrane d. Ribosomes
- 3 Which one of the following is used by *Nitrobacter* as their electron source.
a. NH_4 b. NO_2 c. NO_3 d. H_2S
- 4 Which of the following is correct for membranous infolding in bacteria that initiate DNA replication?
a. Nucleosome b. Carboxysome c. Magnetosome d. Mesosomes
- 5 Which of the following is causal agent of dental carries?
a. *Streptococcus mutans* b. *Streptococcus lactis* c. *C streptococcus pyogenes* d. *Bacillus anthracis*
- 6 Which one of the following antibiotic inhibited p-p-bactoprenol, preventing the release of murine from its lipid carrier?
a. cycloserine b. bacteriocin c. penicillin d. vancomycine
- 7 Which of the following is not is not a characteristic of Gram-positive bacterium?
a. Ribosomes b. Peptidoglycan c. Lipopolysaccharide d. Plasma membrane
- 8 Which of the following is inhibited by Tetracycline?
a. Protein synthesis b. Cell wall synthesis c. DNA synthesis d. Transpeptidase
- 9 Which phase in a growth curve that the bacteria are checking and adjusting to their environment?
a. Stationary phase b. log phase c. decline phase d. lag phase
- 10 Which bacterial structure resembles the mitochondrion most closed in function?
a. Pili b. Plasmid c. Plasma membrane d. Ribosomes
- 11 Which one of the following is sex transmitted disease?
a. Syphilis b. Tuberculosis c. Tetanus d. deng fever

- (13)is not a unicellular alga
 (a) *Nitzschia* (b) *Chlorella* (c) *Cosmarium* (d) None of the above
- (14) Diplontic life cycle is found in
 a) Red algae b) Charophyta c) Green algae d) Diatoms
- (15) The number of flagella in *Euglena* is:
 a) One b) Two c) Four d) Many
- (16) Which of the following algae has cup-shaped chloroplast?
 (a) *Chlamydomonas* (b) *Chlorella* (c) (a) and (b) (d) None of the above
- (17) Euglenophyta store food in the form of:
 a) Starch b) Laminarin c) Paramylon d) Floridean starch
- (18) Chlorophyll b is found in
 a) Euglenophyta b) Charophyta c) Green algae d) All of them
- (19) A monoecious alga is one in which:
 a) Male and female sex organs are on different thalli
 b) Male and female sex organs are on the same thallus
 c) Only male sex organs are present
 d) Reproduction is only asexual
- (20) Which group of algae have an inorganic cell wall?
 (a) Chlorophyta (b) Charophyta (c) Bacillariophyta (d) All of the above
- (21) The life cycle of *Ectocarpus* is:
 a) Diplontic b) Haplontic c) Haplodiplontic d) Triphasic

With all best wishes,..... Dr./ Mohamed Gomaa

(i) Cell wall composition of green algae.

(j) Eight-celled stage during a sexual reproduction of *Volvox*.

Question # 3: Choose the correct answer for 20 ONLY of the following:-

Q3		20
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(1) Cyanobacteria reproduce mainly by:

- a) Binary fission b) Fragmentation c) Both a and b d) Sexual reproduction

(2) Pyrenoids in green algae are associated with:

- a) Photosynthesis b) Starch storage c) Nitrogen fixation d) Motility

(3) Desmids reproduce mainly by:

- a) Binary fission b) Cell division c) Fragmentation d) Budding

(4) Which pigment is responsible for the golden-brown color of diatoms?

- a) Fucoxanthin b) Chlorophyll b c) Phycocyanin d) Xanthophyll

(5) Alginates are found in the cell wall of:

- a) Red algae b) Brown algae c) Green algae d) Cyanobacteria

(6) The food reserve in red algae is:

- a) Starch b) Laminarin c) Floridean starch d) Glycogen

(7) Which cyanobacterium is filamentous without heterocyst?

- a) *Nostoc* b) *Oscillatoria* c) *Microcystis* d) *Rivularia*

(8) Coenocytic condition is found in:

- a) *Chlamydomonas* b) *Spirogyra* c) *Vaucheria* d) *Pandorina*

(9) Which process restores original size in diatoms?

- a) Auxospore formation b) Binary fission c) Fragmentation d) Akinete formation

(10) Red algae lack:

- a) Chlorophyll a b) Flagellated stages c) Phycoerythrin d) Cell walls

(11) Nanospores is a method of sexual reproduction in:

- (a) Cyanobacteria (b) Red algae (c) Brown algae (d) None of them

(12) The xanthophyta walls are typically of

- (a) Cellulose (b) Cellulose and pectin (c) Silica (d) Peptidoglycan

(e) Compound zoospore (Synzoospore)

(f) Nucule

(g) Auxospores

(h) Gonidia

Question #2: Give the scientific term for 9 ONLY of the following:-

Q2		9
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- (a) Free-floating algae.
- (b) Multicellular algae composed of an indefinite number of cells.
- (c) A prokaryotic alga which is rich in proteins and can be used as food.
- (d) Reserve food material in brown algae.
- (e) Unicellular algae with two semi-cells.
- (f) The red pigment in Cyanobacteria and red algae.
- (g) A green macroalga which is commonly known as sea lettuce.
- (h) Asexual spores for *Chlorella*.

	Assiut University – Botany and Microbiology department	
	Final Exam (Summer semester 2025) for 2 nd level students	
	Phycology (273 B)	
	Time allowed: 2h	Total Marks: 50

Answer the following questions (Exam in 4 pages)

Question #1: Write on 7 only of the following (With Drawing):

Q1	21
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(a) *Palmella* stage.

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(b) Heterocyst

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(c) Spermatium

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(d) Polyhedral cells

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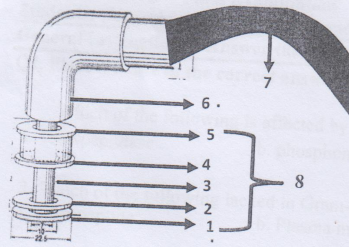
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Q5. Look at the diagram provided provided and answer the following: 10 Marks



1. Identify each of the labeled structures from 1-8 in the diagram. 4 Marks

1	2	3	4
5	6	7	8

2. What is the name and position of the structure shown? ½ Mark

3. Which type of bacteria possess it? ½ Mark

4. What is the function of the provided structure? 1 Mark

5. What is the type of protein of the number (7)? 1 Mark

6. What is the function of structure number (3)? 1 Mark

7. What is the function of structure number (8)? 1 Mark

8. The energy required for the rotation of structure number 8 is generated by 1 Mark

Good Luck
Prof Dr Mohamed Hemida Abd-Alla

Q4. For each of the following, state the position, composition, and function: . (2Mark each)

Name	Position	Composition	Function
1. Fimbriae			
2. Gas vacuole			
3. Capsule			
4. Carboxysomes			
5. Ribosome			

Q3. Give reason(s) in space "provided below" for each of the following: 10 Mark

1. Strictly anaerobic bacteria go under the lethal effect when exposed to oxygen

2. An adaptation of thermophilic bacteria to grow at 70⁰ C.

3. Resistance of bacterial endospore to harsh environmental conditions

4. The turgidity of bacterial cell wall.

Q2. Write the suitable definition for each scientific term.

10 Mark

No	Scientific term	Definition
1	Growth factors	
2	Obligate anaerobic	
3	Photoautotrophic bacteria	
4	chemotaxis	
5	Magnetosome	