	Assiut University – Botany and Microbiology department	
	Final Exam (2022-Summer course) **Phycology (273 B)**	
	Time allowed: 2h **Total Marks:50**	

Answer the following questions

Question #I: Complete the following sentences:-

1- Fusion between gametes of equal size is known as.....

2- Asexual reproduction by daughter colony formation occurs in.....and.....

3- The cell wall of Bacillariophyta is composed of.....

4- Asexual reproduction in *Chlorella* is by.....

5- Chlorophyll d is found in.....

6- Palmella stage is.....

7- Quadriflagellated zoospores is found in.....

8- The reserve food material in brown algae is.....

9- Nanospores is found in.....

10-Phycoerythrin pigments is found in divisions .....and.....

11-Diplontic life cycle is a characteristic feature of.....

12-The nucleus in *Euglena* is .....

13-The term phytoplankton refers to.....

14-Aplanogametic isogamy is found in.....

15-The term globule refers to.....

16-Polyhedral cells occur during asexual reproduction of ....

17-Algae composed of indefinite number of cells is referred to as... .....

18-The cell wall of *Euglena* is.....

19-.....is a prokaryotic alga used as a food supplement.

20-Pyrenoids is the center of .....formation in division..... .....

21-Spermatia is.....

22-Triphasic alternation of generation is found in.....

23-The net-shaped chloroplast can be observed in.....

24-Fucoxanthin pigment is found in.....and ....

25-The shape-shifting movement in *Euglena* is known as.....

<u>Question #II:</u> Answer with (True) or (False):-

26-Blue-green algae have similar characteristics to bacteria.

27-Gonidia is responsible for sexual reproduction in *Volvox.*

28-Haplo-diplontic life cycle and heteromorphic alternation of generation is found in *Ulva.*

29-Asexual reproduction in desmids and diatoms is by cell division.

30-Uni-flagellated male gametes are found in the sexual reproduction of centric diatoms.

31-The cell wall of Rhodophyta is composed of cellulose, fucoidan and alginate.

32-Both *Chlamydomonas, Pandorina,* and *Volvox* have cup-shaped chloroplast.

33-Synzoospores if formed during asexual reproduction of *Pediastrum.*

34-Both *Cosmarium* and *Spirogyra* belong to the same taxonomic class.

35-Diatoms cells are haploid.

36-Chlorophyta have similar characteristics to higher plants.

37-Algae growing on mud is known as epilithic.

38-Auxospores are formed during the asexual reproduction of diatoms.

39-The color of Cyanobacteria id blue green due to the phycoerythrin pigments.

40-Chlorophyll b can be found in Euglenophyta, Chlorophyta and Charophyta.

41-*Chaemosiphon* reproduce asexually by endospore formation.

42-All desmids are akontae.

43-The filaments of *Tolypothrix* have false branching.

44-Both *Rivularia* and *Gloeotrichia* have basal heterocyst.

45-Paramylon bodies is the reserve food material in red algae.

46-Reproduction by protonema is found in *Vaucheria.*

47-*Chlorella* is a single celled and flagellated alga, which have a cup-shaped chloroplast.

48-Heterothallism can be found in *Spirogyra.*

49-Sexual reproduction in *Chara, Vaucheria* and centric diatoms is Oogamy.

50-Unilocular sporangia in *Ectocarpus* is responsible for the formation of gametophyte.

Faculty of science Botany and Microbiology Department		كلية العلوم قسم النبات والميكروبيولوجى
Plant Morphology and Anatomy **Time: two hours** **Total degree: 50 marks**		**Summer semester exam** **The academic year:2021-2022** **Second level**

Choose the correct answer of the following questions:

1	The meristematic tissues are characterized by:- a. large nucleus b. lacking vacuole c. thin cell wall d. all the preceding
2	stomata are generally composed of:- a. guard cells b. accessory cells c. stomatal cavity d. all the precedi
3	The types of parenchyma that possess large intercellular spaces are called:- a. aerenchyma b. chlorenchyma c. collenchyma d. lignified parenchyma
4	.....is a very thin area serves to absorb nutrients from the endosperm during germination a. Scutellum b. Coleoptile c. Coleorhiza d. Testa
5	A group of plants which unable to make photosynthesis process, is called..... a. insectivorous plants b. woody plants c. herbaceous plants d. all the above
6	..... roots draw down the shoot into the soil, for the aim of anchorage of the plant in the soil a. Epiphytic b. Climbing c. Contractile d. Haustorial
7	The elastic supporting tissue, in rapidly growing parts of dicot stems is:- a. Parenchyma b. sclerenchyma c. collenchyma d. all the preceding
8	When the plant is characterized by indistinct stem (stemless) is called ..... a. Acaulescent b. caulescent c. scape d. pseudostem
9	The periderm commonly consists of:- a. phellogen b. phellen c. phelloderm d. all the preceding
10	The complementary tissue is a layer present in:- a. phellogen b. periderm c. lenticels d. hydathodes
11	The annual ring is consists of wood called:- a. winter wood b. summer wood c. summer & winter d. spring wood
12	The cells that present between xylem and phloem in dicot stems are called:- a. endodermis b. cambium c. hypodermis d. pericycle
13	..... flattened stem that appears leaf-like and is specialized for photosynthesis a. Stolon b. Caulescent c. Scape d. Cladophyll
14	Pericycle is consists of sclerenchyma present on each bundle in:- a. monocot stems b. dicot stems c. monocot roots d. dicot roots
15	The phloem is regular in:- a. monocot stems b. dicot roots c. dicot leaves d. dicot stems

16	..... plants that complete their life cycle in 3 years or more a. Annual b. Perennials c. Scape d. Biennials
17	The stem grows erect to some distance above the ground and there after branch profuse to form dome shaped appearance:- a. culm b. caudex c. excurrent d. deleguescent
18	The total leaves present on the shoot system of the plant called ..... a. phyllome b. buds c. branch d. thorn
19	The xylem alternate with phloem in:- a. monocot stems b. dicot roots c. dicot leaves d. dicot stems
20	The tissues that isodimetric, bone, columnar, ovoid with branched pits are:- a. vessels b. fibres c. sclereides d. sieve tubes
21	The types of parenchyma that play a function in supporting are called:- a. aerenchyma b. chlorenchyma c. spongy d. lignified
22	The special type of cells that associated with sieve tubes are:- a. vessels b. companion c. tracheids d. sclereides
23	The ..... stem is highly reduced and discoid underground stem bearing a large number of scaly leaves a. bulb b. Tuber c. sucker d. Rhizome
24	The collateral vascular bundle with a sheath and without cambium is called:- a. closed b. bicollateral c. open d. radial
25	In monocot roots, the cells of endodermis that have thin walls are known as:- a. passive cells b. active cells c. passage cells d. Parenchyma
26	..... is spirally coiled, spring like structures which are highly sensitive to contact and coil around the neighboring support b. Bud b. Branch c. Roots d. Tendrile
27	..... branching occurs when the terminal bud continues to grow as a central leader shoot and the lateral branches remain subordinate a. Monopodial b.sympodial c. dichotomous d. cymose
28	Composed of single protective layer, without intercellular spaces:- a. cortex b. vascular bundles c. epidermis d. cork
29	..... roots are adventitious roots, which look like little tree branches a. Prop b. Climbing c. Respiratory d. Stilt
30	The ..... plant is tree-like in size, usually with a single main trunk or stem a. arborescent b. shrubby c. suffrutescent d. all the above
31	The openings where gaseous interchange takes place between the intercellular spaces of the subepidermal cells and atmosphere are called:- a. pits b. hilum c. stomata d. diplosperm

32	The type of stomata that present in Graminae and Cyperaceae is:- a. Dumb-bell b. sunken with hairs c. sunken d. all the preceding
33	Addition of more xylem and phloem to conducting systems by cambium activity is:- a. addiction b. 2ry thickening c. abnormal activity d. all the preceding
34	..... and ..... are the protective caps over the plumule and radicle, respectively a. Scutellum and coleoptile b. Coleoptile and coleorhiza c. Tesa and coleoptile d. all the above
35	The internodes are usually reduced and one or more axillary buds are present in the axil of the scale leaves in ..... stem a.Tuber b. bulb c. corm d. Rhizome
36	The ..... is special structure in plant is characterized by hard, straight, and pointed structure serve as defensive organs a. buds b. branch c. thorn d. tendrile
37	Lower plants are building up of primitive tissue called:- a. fibres b. collenchyma c. scleriedes d. parenchyma
38	Walls of flax fibers composed largely of:- a. lignin b. cellulose c. cutin d. suberin
39	In Gymnosperms xylem is composed only of:- a. vessels b. fibres c. sclereides d. tracheids
40	The leaf always originate from shoot apical meristems, located inside a bud, known as a. leaf tendrile b. leaf primordial c. leaf thorn d. not of above
41	..... stem, it is a modified underground runner and originates from underground axillary bud a. Tuber b. Caudex c. sucker d. Rhizome
42	The phloem with sieve tubes, companion cells and parenchyma is called:- a. 2ry phloem b. regular c. irregular d. all the preceding
43	The vascular bundle with the xylem surrounds the phloem is called:- a. collateral b. bicollateral c. concentric d. radial
44	The tissues that formed due to the activity of phellogen are called:- a. 2ry epidermis b. lateral root c. periderm d. 2ry roots
45	When the leaf base is surround part of the stem is called ..... a. Amplexicaul b. Auriculate c. decurrent d. Sheathed
46	The ..... stipules fall after unfolding of leaf a. Caduceus b. Deciduous c. persistent d. all the above
47	When the stipules arc large and green leafy structures they are called..... a. Foliaceous b. adnate c. scaly d. spinous
48	In ....., hypocotyl greatly elongated pushing cotyledons above soil surface to give up cotyledonary leaves a. Viviporus b. Epigeal c. Hypogeal d. velamen
49	In .....leaflets arranged on both sides of leaf stalk and ends with two leaflet a) Paripinnate b) imparipinnate c) bipinnate d) all the above
50	Two lateral stipules grow adhering to the petiole up to a certain height thus making it somewhat winged:- a. Foliaceous. B. Adnate c. Spinous d. Scaly

د:منى حسن محمد حسن

بالتوفيق ان شاء الله

Assiut University
Faculty of Science
Botany & Microbiology Department

Date: September 11, 2022
The time allowed: 2 hours
Total mark: _____
50

Final Examination **Subject: Course B 271 (Bacteriology)**
Summer course
Students: (Microbiology; Chemistry and Microbiology sections).

Shade the correct answer in provided bubble sheet using a blue ballpoint pen
ظلل الاجابه الصحيحه فى نموذج الاجابه مستخدما قلم جاف ازرق

1. Which of the following bacteria synthesis chemical that our body needs?
a. *Bacillus anthracis* b. *Escherichia coli* c. *Salmonella typhi* d. *Vibrio cholerae*

2. Which of the following bacteria was discovered by Robert Koch?
a. *Mycobacterium tuberclosis* b. *Mycobacterium lepera* c. *Salmonella typhi* d. *Neisseria gonorrhoea*

3. Which of the following scientist tried to disprove Spontaneous generation theory?
a. Robert Koch b. Louis Pasteur c. Robert Hood d. Hippocartes

4. Who is father of microscopy?
a. Carl Woese b. Francesco Redi c. Antonvan Leewenhoek d. Joseph Lister

5. Which one of the following used as biological weapon?
a. *Escherichia coli* b. *Bacillus anthracis* c. *Vibrio cholerae* d. *Salmonella typhi*

6. Which one of the following is energy parasite?
a. *Archea* b. *Mycoplasma* c. *Chlamadyia* d. *rickettsia*

7. Which one of the following has endoflagellium?
a. *Treponema* b. *Spirillum* c. *Vibrio* d. *Sphaerotilus*

8. Which one of the following is acidic dye?
a. Congo Red b. Crystal violet c. Safranin d. Methylene blue

9. Cells divide in three planes in a regular pattern, producing a cuboidal arrangement of cells.
a. Sarcinae b. Staphylococci c. Streptococci d. Tetracocci

10. Which one of the following is causal agent of syphilis?
a. *Neisseria gonorrhoeae* b *Bacillus anthracis* c. *Trepnoma pallidium* d. *Salmonella typhi*

11. Which one of the following is causal agent of lumpy jaw?
a. *Mycobacterium* b. *Actinomyces* c. *Steptomyces* d. *Caryophanon*

12. *Streptococcus mutans* is causal agent of?
a. Dental caries b. Botulism c. Tetanus d. Gangrene

13. Which one of the following is considered Gram negative bacteria?
a. *Neisseria* b. *Staphylococcus* c. *Streptococcus* d. *Microococus*

14. Bacteria that are responsible for milk fermentation are?
a. *Lactobacillus* b. *Azotobacter* c. *Rhizobium* d. *Clostridium*

15. The most infectious food borne disease is?
a. Tetanus b. Dysentery c. Gangrene d. Botulism

16. Which one of the following is characterized by cysts formation?
a. *Azotobacter* b. *Rhizobium* c. *Bacillus* d. *Escherichia*

17. Which one of the following is characterized by gilding movement?
a. Micrococcus b. *Beggiatoa* c. *Caryophanon* d. *Cytophaga*

18. Cytoplasmic streaming is not present in
a. *Rhizobium* b. *Rhizopous* c. *Vicia faba* d. *Spirogyra*

19. Bacterial cell have all of following except
a. Nucleoid b. Ribosomes c. Mesosomes d. Golgi bodies

20. Bacterial ribosomes are composed of
a. Protein and DNA b. Protein and mRNA c. Protein and rRNA d. Protein and tRNA

21. A metabolic characteristic of certain Archaea that does not occur in bacteria?
a. Lithotrophy b. N_2-Fixation c. Methanogenic d. Oxygenic photosynthesis

22. A bacterium with flagella all around is
a. Monotrichous b. Amphitrichous c. Cephalotrichous d. Peritrichous

23. Which one of the following is not function of capsule?
a. Inhibits phagocytosis b. Prevents dehydration c. Attaches to host d. Energy production

24. The basal body of *Bacillus cereus* is composed of
a. 2 rings b. 3 rings c. 4 rings d. 5 rings

25. What is the function of fimbriae?
a. Movement b. Conjugation c. Attachments d. food reservoir

26. Which among the following is associated with the export of exocellular enzymes?
a. Central mesosome b. Magnetosome c. Peripheral mesosome d. Carboxysome

27. The tetracyclines block bacterial protein synthesis by binding to
a. 30S subunit b. 40S subunit c. 50S subunit d. 60S subunit

28. Which one of the following play essential role for orientation of bacteria?
a. Magnetosome b. Mesosome c. Carboxysome d. Chlorosome

29. What of the following is the correct order for the layers of mature endospores from the outer to inner side?
a. exosporium, coat and cortex b. cortex, exosporium and coat
c. cortex , coat and exosporium, d. coat, cortex and exosporium

30. Which one of the following is a not function of cell wall
a. Protect from phagocytosis b. Rigidity c. Prevent lysis d. Site for projections

31. Which one of the following is missing in Gram positive bacteria?
a. Mucopeptide b. Inner membrane c. lipopolysaccharides d. Nucleoid

32. The erythromycin inhibiting the synthesis of
a. Murine b. Protein c. Nucleic acid d. Folic acid

33. Which one of the following is correct for aspartic acid?
a. Chlorosome b. Cyanophycin c. Carboxysome d. Vesicles

34. DNA repairing enzymes is characteristics of
a. Mesosomes b. Magnetosomes c. Endospores d. Plasmid

35. Which of the following antibiotic blocks the conversion of UDP-N-acetyl glucosamine-pyruvate.to produce UDP-N-acetylmuramic acid (UDP-N-AMA)?
a. Phosphonmycine b. Ristocetin c. Vancomycin d. Penicillin

36. Which of the following is responsible for heat resistance of endospore?
a. Mycolic acid b. Dipicolinic acid c. Techioc acid d. Diaminopimelic acid

37. Which of the following is used for diagnosis of *Mycobacterium tubercolosis*?
a. Acid fast stain b. Gram stain c. Negative stain d. Capsule stain

38. Which of the following species is iron oxidizing bacteria?
a. *Sphaerotilus* b. *Thiobacillus* c. *Clostridium* d. *Nitrobacter*

39. Bacteria that not required any growth factors are called as ....
a. Chemotrophs b. Protrophs c. Auxotrophs d. Heterotrophs

40. The covalent bond which links N – acetylmuramic acid and N-acetyl glucosamine is.....
a. α -1,4-glycosidic b. β -1,4-glycosidic c. α -1,6-glycosidic d. β -1,6-glycosidic

41. The direct bridge of Gram negative bacteria connects
a. L-lys to D-ala b. meso-DAP to D-glu c. meso-DAP to L-ala d. meso-DAP to D-ala

42. Non Sulfur purple bacteria belong to which of the following group?
a. Chemoautotrophs b. Chemohetrotrophs c. Photoheterotrophs d. Photoautotrophs

43. Which of the following enzyme that catalyzes the incorporation of D-alanine into N-acetylmuramylpeptide and inhibited by cycloserine?
a. Synthetase b. Transglycolase c. Transpeptidase d. Ribonuclease

44. Which of the following is considers as trace element for the growth of bacteria?
a. Co b. Ca c. Mg d. Fe

45. Which of the following enzyme is missing in obligate anaerobe and undergo lethal oxidation when exposed to oxygen?
a. Transpeptidase b. Permease c. Carboxylase d. Superoxide dismutase

46. Which one of the following is not a major class of growth factors?

a. Purines b. Vitamins c. Amino acids d. Nucleic acid

47. In what type of bacterial culture medium listed below would beef extract never be a component?

a. Synthetic b. Complex c. Selective d. Differential

48. Bacteria of genus *Nitrobacter* use _____ as their electron source?
a. NH_4 b. NO_3 c. NO_2 d. H_2S

49. What of the following is the correct order for the pentapeptide side chain of N-acetyl muramic acid?

a. L-ala- L-lys-D-ala-D-glu-D-ala b. L-ala-D-glu-L-lys-D-ala-D-ala

c. D-glu-L-ala- Meso-DAP-D-ala-D-ala d. D-ala-L-ala-Meso-DAP- D-glu-L-lys

50. The exosporium layers of endospore is composed of .....
a. Protein b. mucopeptide + Lipid c. Protein +lipids d. Protein + Mucopeptide

Good luck

Prof Dr. Mohamed Hemida Abd-Alla