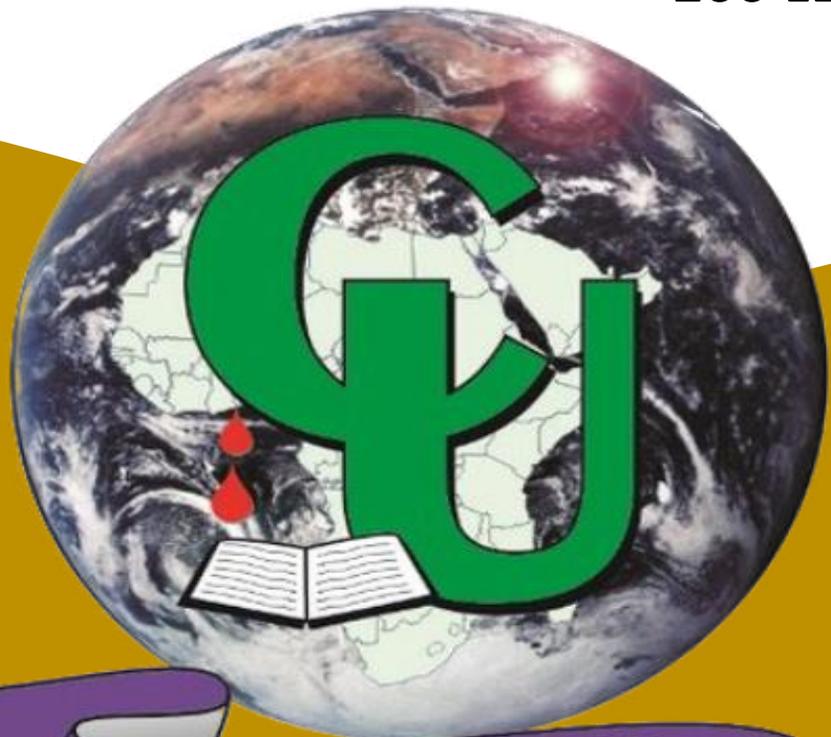


# COVENANT UNIVERSITY

ALPHA SEMESTER TUTORIAL KIT  
(VOL. 2)

PROGRAMME: MICROBIOLOGY  
200 LEVEL



*Raising A New Generation Of Leaders*

## **DISCLAIMER**

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## **LIST OF COURSES**

MCB211: Bacteriology

MCB212: Mycology

**\*Not included**

**COVENANT UNIVERSITY, OTA- OGUN STATE.**

**DEPARTMENT OF BIOLOGICAL SCIENCES**

**MICROBIOLOGY UNIT**

**MCB 211 BACTERIOLOGY**

**ALPHA SEMESTER 2014/2015 SESSION**

**TUTORIAL QUESTIONS**

**SECTION A**

1. State the characteristics of the family Enterobacteriaceae.
2. State five biochemical tests for identifying the enteric bacteria.
3. List ten genera of the family.
4. Describe the cultural characteristics of the family on BA and MAC media.
5. Mention the genera causing the following diseases: traveller's diarrhoea, typhoid fever, nosocomial infections and urinary tract infections.
6. Define coliforms and state their sources.
7. What is the significance of coliforms in water or foods?
8. Distinguish between the families of Enterobacteriaceae and Pseudomonadaceae.
9. Classify the bacterium *P. aeruginosa* and state 5 importance of Pseudomonas spp.
10. List 7 genera of Pseudomonadaceae

**SECTION B**

1. Coagulase test differentiates .....
2. Lancet-shaped diplococci and bean-shaped diplococci are characteristics of .....
3. Tampon use is associated with .....
4. Meningococemia is caused by .....
5. *N. meningitidis* and *N. gonorrhoeae* can be differentiated by ..... fermentation
6. Streptococci are always catalase negative; True or False.
7. Dental caries, bile and optochin resistance can be associated with .....
8. Endocarditis and urinary tract infections are caused by all except .....

- a. *Enterococcus faecalis*
  - b. Coagulase negative staphylococci
  - c. *N. gonorrhoeae*
9. Glycocalyx aids in .....
  10. Which streptococcal disease is an immune complex?
  11. State the reaction of the coagulase negative staphylococci to novobiocin.
  12. 12. Another name for the spreading factor is ..... And it is produced by .....
  13. 13. What component of a bacterial cell is antiphagocytic.
  14. 14. Quellung test is used to .....
  15. 15. Bacitracin sensitivity is seen in .....
  16. Name three methods to prevent gonorrhea infection. What organism is responsible? State the mode of transmission.
  17. *Staphylococcus aureus* and *Enterococcus faecalis* can grow in the presence of 6.5% NaCl. However, *E. faecalis* differs in its ability to .....
  18. State the difference that exist among Bacteria, Archaea and Eucarya based on:
    - i. Membrane enclosed nucleus
    - ii. Cell wall
    - iii. Chlorophyll based photosynthesis
    - iv. Chemolithotrophy
  19. Name the Orders under Crenarchaeota. Give an example of a genus under each Order. What are their distinguishing characteristics.
  20. What are the ecological importance of methanogens
  21. Differentiate Thermococci from Thermoplasma
  22. Name the various groups of bacteria based on oxygen requirement
  23. Why are anaerobes sensitive to oxygen?
  24. Group anaerobes with one example each based on their Gram staining reactions

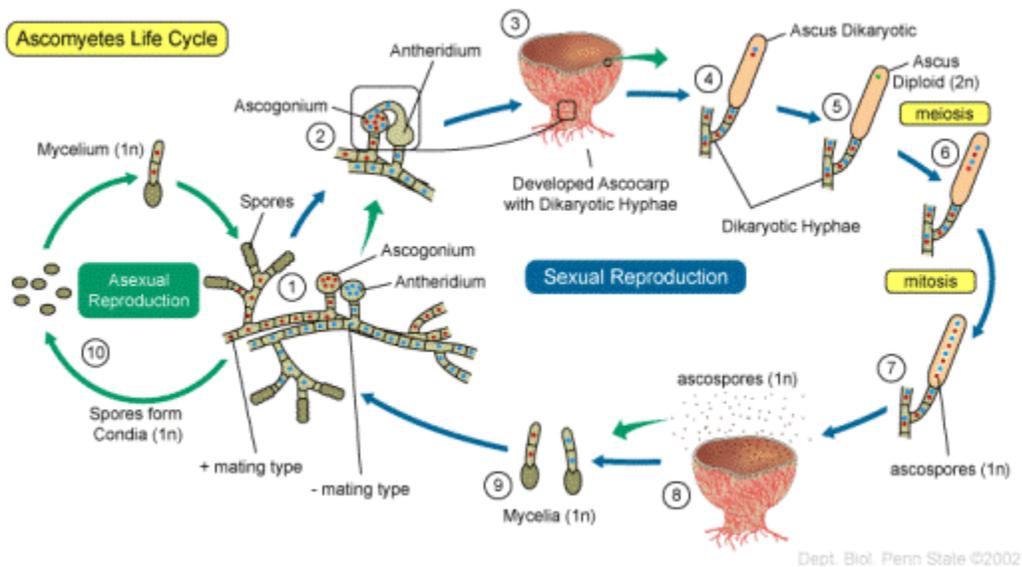
25. Give the incubation method for the following; a) *Bacteroides fragilis*, b) *Campylobacter jejuni*, c) *Pseudomonas aeruginosa*
26. On what medium do you demonstrate lipase and lecithinase activity. Name an anaerobe positive for either enzymes.
27. Name an anaerobe that grows on BBE agar.
28. Name two anaerobes that produce fluorescent colonies.
29. Name a spore forming anaerobe
30. Which anaerobe produces double zones of haemolysis?
31. Differentiate the swarming clostridia.

# MCB212: Mycology

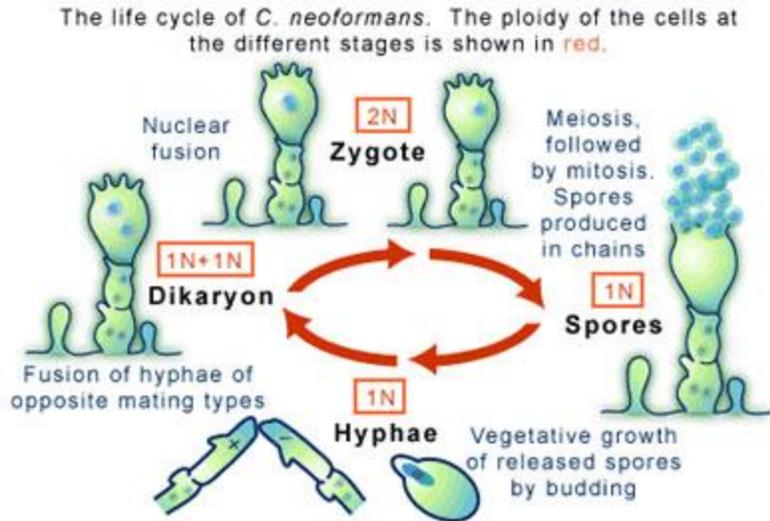
## MCB 212 WITH MARKING GUIDE

a) With the aid of an annotated diagram, discuss reproduction in a named fungus.

Typical Life Cycle of Ascomycota



It is important to remember, asexual reproduction is favored in *Aspergillus fumigatus* during all conditions, especially those outlined in the [habitat section](#). Sexual reproduction is unknown. This is why most human disease cultures contain conidia instead of an ascocarp.



Life cycle – 7marks

Explanation – 5mks

b) Discuss the importance of fungi to man and his environment

In a tabular form, outline the distinguishing characteristics of the fungi in the division Eumycota under the following headings

Phylum	Habitat	Sexual Spores	Asexual Spores	Examples
Zygomycota (yoke fungi)	Soil, plant and animal debris (Terrestrial)	Zygospores		
Ascomycota (Sac fungi)	soil			
Basidiomycota (Club fungi)	soil			
Oomycota (water molds)	Water, soil			
Deuteromycota (Imperfect fungi)	Soil, subterrestrial			

b) Of what importance are spores to fungi?

8mks

Total = 20 marks