

BITS, Pilani, Dubai Campus

Comprehensive exam

1st Semester 2013-14

Course No: BIOT F212 / Course Title: Microbiology

Weight-age: 30 %

Total 60 marks

Date: 30.12.2013

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1. Write a short note on the following 3X4=12 Marks
 - a. Ames test
 - b. Portals of entry for pathogen
 - c. Fimbriae and pili
 - d. Three kingdom classification

 2. Justify the following statement 2X4=8Marks
 - a. Fungal infection is difficult to control
 - b. Normal microflora of one organ can be pathogen of other organ in same organism
 - c. Prokaryotes have food reserve deposits within the cytoplasm
 - d. Protozoa is a medically important phylum.

 3. Draw and explain the one step growth curve of viral multiplication? 4 Marks

 4. Differentiate the following (in tabular form) 3X4=12 Marks
 - a. Thermal death point from decimal reduction time
 - b. Trophophase from idophase
 - c. Bright field microscope from dark field microscope

 5. a. Briefly describe the procedure of growing animal viruses in the laboratory? 4X4= 16 Marks
 - b. Define industrial microbiology and name any 5 important different kinds of commercially produced products that we use in our day to day life?
 - c. List out at least 3 reasons that scientists are able to identify new diseases quickly these days? Explain it with an example of H1N1?
 - d. How did Pasteur disprove the theory of spontaneous generation? Explain

 6. Mention the various metabolic pathways in prokaryotes to oxidize glucose and elaborate?
(8 Marks)

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Test 2 (OB)

1st Semester 2013-14

Course No: BIOT F212 / Course Title: Microbiology

Weight-age: 20 %

Total 20 marks

Date: 10.12.2013

6X3=18 Marks

1. An industry is commercially producing yeast tablets. At which stage of growth will the manufacturer harvest the cells so as to maintain the constant cell number in the fermenter. Justify your answer?
2. A person is infected with *M. tuberculosis*. Which antibiotic the doctor will suggest for the treatment. Elaborate the pros and cons?
3. Why influenza virus cannot able to induce immunogenicity?
4. Suggest some methods for preserving fruit juices. Give reason for each method?
5. Elaborate how the number of cells in a culture can be determined by directly counting?
6. Mention the series of experimental procedure to be followed in identification of a pathogenic *Klebsiella pneumoniae*?
7. In Eukaryote the carbohydrate catabolism yields 2 ATP molecules lesser when compared to that of prokaryotes. Explain the facts behind this statement?

(2 Marks)

BITS PILANI, DUBAI CAMPUS

First Semester 2013 – 2014

Course No. : BIOT F212

Weightage: 25%

Max Marks: 25

Course Title : Microbiology

Test 1

Date: 08.10.2013

11 X 2= 22 Marks

1. What do you understand by Binomial System of Taxonomic Classification? Explain with 2 examples?
2. Describe Francesco Redi's Experiments to disprove Spontaneous Generation with diagram?
3. Write short note on the following
 - a. DIC microscope
 - b. Inclusion bodies
 - c. Differential media
4.
 - a. Diagrammatically explain the different flagella arrangements in bacteria?
 - b. Classify bacteria on the basis of temperature requirement for its optimum growth? Give one example each of those?
5.
 - a. How are OxyPlate prepared? Explain its use in microbiology?
 - b. Explain the process of Bioremediation with 2 examples?
6.
 - a. Write the principle and significance of Lyophilization?
 - b. What is artifact and shadow casting? State their advantages?
 - c. Explain the process of sporulation in bacteria? Explain it with neat diagram? (3 Marks)

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Name:

Quiz 2

ID No:

1st Semester 2013-14

Course No: BIOT F212 / Course Title: Microbiology

Weightage: 5 %

Total 10 marks

Date: 17.11.2013

1. What are Chemoheterotrophs? Explain with an example.
2. How Mycorrhiza is helpful to plants?
3. What are the two forms of growth in fungi? Give one example
4. Define Lichens and give one economic importance of Lichens.
5. Which part of the algae anchor itself to a rock and protect it from washed away.

BITS PILANI, DUBAI CAMPUS

First Semester 2013 – 2014

Course No. : BIOT F212

Weightage 5%

Max Marks: 10

Course Title : Microbiology

Quiz 1

Date: 22.09.13

1. Illustrate the sequences of experimental steps involved in "Koch's Postulate" (2 marks)

2. Briefly explain the germ theory of disease (1 Mark)

3. What is fluorochrome? Give 2 examples. (1.5 Mark)

P.T.O

4. Compare and Differentiate between dark field and phase contrast microscope? (2 Marks)

5. How microbes are useful to human. Explain it with 2 examples (2 mark)

6. Describe a staining technique for a virulent pathogen (1.5 Mark)