



DATE : 02nd November 2010

TIME : 4.00pm – 5.00pm

Registration No:

PART B
Structured Essay Type Questions

Answer all the questions in the space provided.

01. Differentiate between each of the following sets of terms.

i	Plaque assay	Pock assay
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ii.	Generalised transduction	Specialized transduction
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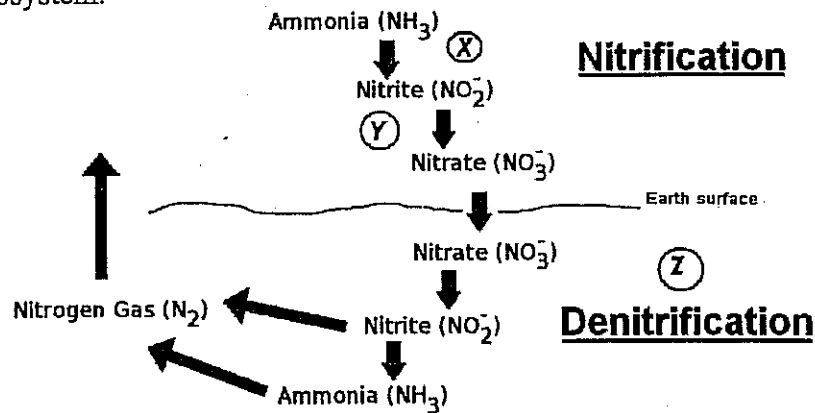
(16 marks)

02. Give one (01) example for each of the following.

- i. A nitrifying bacterium -
- ii. A microbicidal gas -
- iii. An antiviral substance produced by many animal cells -
- iv. An oxic phototrophic microorganism -
- v. A species used as the test organism in phenol coefficient technique -

(10 marks)

03. The following figure illustrates the role of nitrifying bacteria and denitrifying bacteria in the ecosystem.



i. One commonly occurring anaerobic respiratory pathway is indicated in the figure above. What is it known as?

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ii. What is the terminal electron acceptor in the above mentioned pathway?

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iii. Give one (01) bacterium as an example responsible for the each of the step denoted by X, Y and Z.

- X -
- Y -
- Z -

iv. What is the economic significance of Step Z which denotes denitrification?

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(15 marks)

04. You are asked to select a suitable antimicrobial agent to kill or remove vegetative cells of common pathogenic bacteria on the surfaces of inanimate objects. Indicate three (03) characteristics you should consider when selecting such an ideal agent.

- i.
- ii.
- iii.

(09 marks)