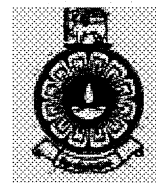


THE OPEN UNIVERSITY OF SRI LANKA

B.Sc. DEGREE PROGRAMME – LEVEL 5 -2011/2012

BOU 3100/BOE5100- ENVIRONMENTAL AND APPLIED MICROBIOLOGY

ASSESSMENT TEST 11 (NO BOOK TEST)



Duration – One (01) hour

Reg. No. -

Date – 25th August 2013

Time – 11.00 a.m. – 12.00 nn

Answer all questions on this paper itself. This paper consists of four (04) questions and six (06) pages.

01. Fill in the blanks with suitable word/words.

- 1.1 The ability of a microorganism to cause a disease is determined by its as well as by host
- 1.2, a cyanobacterium in leaf cavities of *Azolla* contributes for nitrogen fixation.
- 1.3 The long-lived key cells of the immune system are called as cells.
- 1.4 is the first antibody that an infant produces.
- 1.5 In manufacturing of beer, is the stage where malt is mixed with
- 1.6 Antibodies found in the serum portion of the blood are often called as
- 1.7 The term can be defined as the use of living agents to control pests, pathogens and weeds.
- 1.8 is the process of using bacteria, fungi and sometimes plants to eliminate toxic compounds.
- 1.9 are the substances produced within the body to act against viruses.

- 1.10 Microorganisms pathogenic to insects are called as
- 1.11 Agglutination of red blood cells is referred as to and used in
- 1.12 The resistance to infection by the host's body is termed as and it can be or
- 1.13 is an infection caused by several species of *Aspergillus*.
- 1.14 are antibiotics related to penicillins and are formed by the fungus of the genus

02.

(a) For the following diseases, write the name of the causative organism (pathogen) and to which group (virus, bacteria, fungi or protozoa) it belongs.

Disease	Pathogen	Group
Candidiasis
Typhoid fever
Amoebic dysentery
Meningitis
Diphtheria

(b) Explain briefly the following.

(i) Quarantine practice for infectious diseases

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(ii) Lymphocytes

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(iii) Primary immune response

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(c) In terms of clinical symptoms, a typical disease cycle can be divided in five stages. What are they?

- i)
- (ii)
- (iii)
- (iv)
- (v)

(d) Name the three (03) major types of innate immunity.

(i)

(ii)

(iii)

03. (a) Give the four (04) major steps in manufacture of wine from grapes.

(i).

(ii).

(iii).

(iv).

(b). When wines and beers are exposed to air, they turn sour forming vinegar. Give the chemistry of this process (indicating the conditions and the microorganisms involved) in the given space below.

(C). How top fermentation of beer differs from bottom fermentation?

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04. (a). Write the most suitable term for each of the following descriptions.

(i). Biological degradation of the organic wastes under controlled conditions -

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(ii). Dissolving of metals from ore bearing rocks using microorganisms -

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(iii). Enzymes that cut double stranded or single stranded DNA at specific base sequences -

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(iv). Dressing of seeds of crop plants with bacteria in a water suspension -

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(v). An agent that can carry a foreign DNA molecule into a host cell in genetic engineering -

.....

(b). Give the generic names of a bacterium, a fungus and an insect used in genetic engineering as hosts.

Bacterium -

Fungus -

Insect -

(c) Give two (02) characteristic features of an ideal host used in genetic engineering techniques.

(i)

(ii)

(d) List three (03) medical applications of genetic engineering.

(i)

(ii)

(iii)

(iv)

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