



PO-434

Seat No. _____

B. Sc. (Sem. IV) Examination

April / May - 2016

CCC-6 : Biotechnology

(Fundamentals of Microbiology)

Time : 3 Hours]

[Total Marks : 70

1 (a) Answer the following MCQ : 10

(1) The arrangement of microorganisms into groups based on mutual similarity is known as

- (a) classification
- (b) nomenclature
- (c) identification
- (d) none of these

(2) The spores of fungi used for asexual reproduction which are not enclosed in a sac but produced at the tip or sides of the hyphae are

- (a) zygospore
- (b) arthrospores
- (c) sporangiospores
- (d) conidiospores

(3) Which of the following is a protozoal disease ?

- (a) typhoid
- (b) cholera
- (c) malaria
- (d) yellow fever

- (4) Phase in which antibiotic production occurs:
- (a) lag phase
 - (b) log phase
 - (c) stationary phase
 - (d) death phase
- (5) The organism which uses inorganic chemicals as source of electron donor are:
- (a) phototrophs
 - (b) autotrophs
 - (c) lithotrophs
 - (d) chemotrophs
- (6) Alcohol can be sterilized by :
- (a) moist heat
 - (b) dry heat
 - (c) filtration
 - (d) none of these
- (7) Which of the following is a antifungal drug ?
- (a) Penicillin
 - (b) AZT
 - (c) Zidovudine
 - (d) Griseofulvin
- (8) Liquid nitrogen used for preservation of
- (a) bacteria
 - (b) fungal spores
 - (c) viruses
 - (d) all of these
- (9) "Bullet 606" was active against syphilis was sold as
- (a) salvarsan
 - (b) arsenic
 - (c) penicillin
 - (d) sulfadrag
- (10) The presence of which compound makes the TB bacteria resistant to immune system
- (a) Peptidoglycan
 - (b) Glycocalyx
 - (c) Hydrochloric acid
 - (d) Mycolic acid

(b) Fill in the blanks :

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- (1) Agar is the product of _____ Algae.
- (2) _____ is the culture collection center of India.
- (3) _____ is used to disinfect the drinking water.
- (4) The causative agent of tuberculosis is _____.
- (5) The reduction of microbes to the level that are considered safe by public health standard is _____.

2 Write short answers any **five** :

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- (a) Write a short note on Numerical taxanomy
- (b) Discuss the types of bacteria based on temperature and Oxygen requirement
- (c) Describe the mode of action temperature in the control of bacteria.
- (d) Write a short note on economic importance of fungi.
- (e) Discuss the transcription of viral nucleic acid after the entry of virus in the host.
- (f) Preservation of pure culture.
- (g) Give an overview of origin of chemotherapy.

3 Write in detail any **three** :

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- (a) Write about lysogenic cycle in Bacteriophage.
 - (b) Discuss various methods of measurement of bacterial growth.
 - (c) Describe various classes of antibiotics based on the mode of action.
 - (d) Write about the major characteristics of microorganisms used in the classification.
 - (e) AIDS.
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