

Code No.8558

M.Sc.(CBCS) DEGREE EXAMINATION,

APRIL 2013

SECOND SEMESTER

ZOOLOGY

MICROBIOLOGY

(For those who joined in July 2012 onwards)

Time: 3 Hours

Reg. No. _____

Sub.Code: HZOM21

Max. Marks:75

PART A - (10 x 1 = 10 Marks)

Answer ALL the questions:

1. The five kingdom concept was put forth by
(a) Ernst H.Haeckel (b) Robert H.Whittaker (c) Anton van Leeuwenhoek (d) Louis Pasteur
2. Plasmids are
(a) Recombinant DNA (b) Bacterial genome (c) Chromosome (d) Extrachromosomal genetic elements
3. The stationary phase of bacterial growth is attained at a population level of around
(a) 10^9 cells per ml (b) 20^9 cells per ml (c) 30^9 cells per ml (d) 40^9 cells per ml
4. The metabolic pathway which oxidizes Acetyl-CoA to CO_2 is
(a) EMP (b) TCA cycle (c) ED Pathway (d) HMP
5. The science of wine production is
(a) Ecology (b) Enology (c) Aetiology (d) Neology
6. The method of electromagnetic radiation used in food preservation is
(a) Pasteurization (b) Canning (c) Radappertization (d) Polymerase Chain Reaction
7. Which one of the following diseases is transmitted to humans by direct contact or soil contamination
(a) Malaria (b) Filariasis (c) Anthrax (d) Mumps
8. Which one of the following is a zoonotic diseases.
(a) Cholera (b) Typhoid (c) Amoebiasis (d) Rabies
9. The major gas produced in biogas technology is
(a) NH_3 (b) H_2S (c) CO (d) CH_4
10. The biologically mediated process used to remove or degrade pollutants from specific environments is
(a) Bioremediation (b) Biomagnification (c) Cometabolism (d) Cogeneration

PART – B

Answer ALL the questions choosing either (a) or (b) :

(5 X 5 = 25)

11. a) Bring out the differences between gram positive and gram negative bacteria.

(OR)

- b) Characterize the nucleoid with respect to its function.

12. a) Explain a defined medium.

(OR)

- b) Describe the pour plate technique.

13. a) Explain how pasteurization is carried out ?

(OR)

- b) Describe the major approaches used in food preservation.

14. a) Mention the symptoms of botulism.

(OR)

- b) Comment on the problem of Chikungunya.

15. a) How is bioleaching carried out and what microbial genera are involved?

(OR)

- b) Comment on the use of bacteria as bioinsecticide.

PART – C

Answer ALL the questions choosing either (a) or (b) :

(5 X 8 = 40)

16. a) With a labelled diagram describe the ultrastructure of a bacterial cell.

(OR)

- b) Describe the mechanism of gram staining.

17. a) Describe the four phases of the microbial growth curve in a closed system and add a note on the factors affecting microbial growth.

(OR)

- b) Summarize the major features of the Entner – Doudoroff pathway and explain how it serves as a substitute for glycolysis in some bacteria.

18. a) What are the major types of milk fermentations? Explain in detail.

(OR)

- b) Describe the technique of commercial production of Penicillin.

19. a) What are air borne diseases? Discuss the problem of any two air borne bacterial diseases.

(OR)

- b) Explain the epidemiological aspects of any two sexually transmitted diseases.

20. a) Describe the technique of methane production.

(OR)

- b) Write an account on the use of entomopathogenic fungi in the biological control of insect pests.

