

**B. Sc. DEGREE EXAMINATION, APRIL 2016**  
**BRANCH VI.A. – ADVANCED ZOOLOGY AND BIOTECHNOLOGY**  
**FOURTH SEMESTER**

**COURSE : MAJOR – CORE**  
**PAPER : MICROBIOLOGY**  
**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION A**

**ANSWER ALL THE QUESTIONS.**

**(10x3 =30)**

1. Mention the types of cells stained using the following:  
a. Grams stain      b. Sudan stain      c. Eosin stain
  2. Fill in the Blanks  
a) Proteinceous infective particles are called .....
  - b) The capsid of virus consists of subunits called .....
  - c) The bacterial cell wall consists of peptidoglycan called .....
3. Define:
- a) Mesosomes    b) Endospore    c) Viroids
4. Give one word for:
- a) Micorganisms that can grow both in the presence and absence of O<sub>2</sub>
  - b) Micorganisms that acquire inorganic metabolites such as H<sub>2</sub>O and CO<sub>2</sub> form the environment but cannot convert them into food.
  - c) Micorganisms that feed on dead and non living derivatives of organisms are called .....
5. Comment on
- a) Probiotics      b) Chemotherapeutic agents    c) Antibiotics
6. What are the physical conditions required for the growth of bacteria?
7. Comment on Papilloma virus.
8. Name the pathogens for the following diseases
- a) Gonorrhoea      b) Syphilis      c) Leptospirosis
9. Comment on any 3 dairy products.
10. List various bacteriological tests to examine the quality of domestic water.

**SECTION B****ANSWER ANY FIVE QUESTIONS****(5x6=30)**

11. Differentiate between Gram positive and Gram negative bacteria.
12. Explain the types of Culture media used in Bacteriology.
13. Write a note on fimbriae and flagella in bacteria.
14. What is bacterial growth? Describe the different phases in bacterial growth curve.
15. Briefly describe normal micro- biota of skin and vagina.
16. Explain the causative agent, symptoms of any 3 waterborne diseases in human.
17. Write a note on microbial degradation of metals.

**SECTION C****ANSWER ANY TWO QUESTIONS****(2x20 = 40)**

18. Describe the structure, types and functions of plasmids.
19. Explain
  - a. Transformation
  - b. Conjugation
  - c. Transduction
  - d. Transposition
20. Give a detailed account of the epidemiology, treatment, symptoms of air borne diseases such as influenza, pneumonia, measles and hepatitis.
21. Write an essay on the microbial spoilage of food and its control.

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