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(20516)

Roll No. ...............

B. Sc.(Biotech.)-I Year

# NS-3455

## B. Sc. (Biotechnology) Examination,

## May 2016

### Biochemistry

### (B-101)

### (New)

Time : Three Hours]                    [Maximum Marks : 100

Note : Attempt any *five* questions. Each question carries 20 marks.

1. Classify and enumerate vitamins. Explain functions and deficiency disorder of Vitamin-A including visual process.                                                    20

2. What are the enzymes ? Explain in detail its classification. 20

3. Explain the glyoxalate pathway in detail. 20

4. Write short notes on the following : 5×4=20

   (a) Essential and non-essential amino acids

   (b) Diabetes mellitus and diabetes inspidus

   (c) Normal pH of blood and its regulation

   (d) Nucleoside and nucleotide.

5. Write in detail the mechanism of biosynthesis of protein. 20

6. What are the lipids ? Explain their biological importance and classify them. Explain compound lipids. 20

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7. Write short notes on the following : 5×4=20

   (a) Oxidative phosphorylation

   (b) Replication and transcription

   (c) Glycogenolysis

   (d) Triglycerides.

8. Describe the isolation and purification of enzymes in food processing. 20

9. Describe the chemical structure and properties of monosaccharides and polysaccharides. 20

10. Explain pentose phosphate pathway and draw it. 20

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(20518)                                    Roll No. .....................

**B. Sc. (Micro)-I Year**

# 3484

## B. Sc. (Microbiology) Examination, May 2018

### FUNDAMENTAL OF MICROBIOLOGY

### (B-101)

*Time : Three Hours]*                    *[Maximum Marks : 50*

**Note :** Answer any *Five* questions. All questions carry equal

marks.

1.   Describe the various culture techniques in Microbiology

     used for bacterial and fungal cultures.                    10

2.   How do virus differ from other microorganisms ?

     Discuss in detail the morphology of viruses.               10
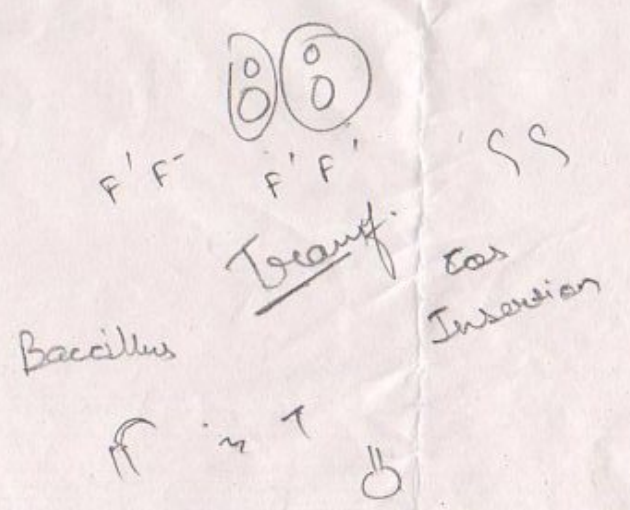
3. What is the role of Microbiology in industries ? How are microbes beneficial in genetic engineering ? 10

4. Write the general characteristics of the following : 5×2

   (a) Fungi

   (b) Archaea.

5. Who gave the germ theory of fermentation ? Discuss the theory and its significance. 10

6. What is a bioreactor ? How are they classified ? Discuss the types of bioreactors. 10

7. Discuss the anabolic and catabolic processes in microbes with special reference to bacterial physiology. 10

8. State differences between the following : 2×5

   (a) Innate and Adaptive immunity

   (b) Fungi and Protozoan

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   (c) Ribonucleic acid and Deoxy ribonucleic acid

   (d) Whittaker's concept and Carl Worse's concept

   (e) Spread plate culture and Pour plate culture.

9. Discuss in brief the history of Microbiology with special emphasis on the work of the following : 10

   (a) Anton Van Leeuwenhock

   (b) Francesco Redi

   (c) Alexander Fleming

   (d) Paul Ehrlich.

10. Bacterial Genetics studies the mechanisms of their heritable information. Discuss. 10

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**B.Sc. (Microbiology) Ist Year**
**Examination, May-2019**

## FUNDAMENTAL OF MICROBIOLOGY
### (B-101)
(B.Sc. Micro.)

*Time : 3 Hrs. ]*                    *[ M.M. : 50*

*Note* :– Attempt any *five* questions. All questions carry
equal marks.

1. Give a detailed account on history of Microbiology.    10

2. Write notes on any *two* of the following :

   (a)  Louis Pasteur

   (b)  Robert Koch and Alexander Fleming

   (c)  Robert Hooke and Antoni Van Leeuwenhoek
                                              5×2=10

3. Who developed the pure culture technique ? How you get a pure culture and what is the purpose of pure culture ?          10

4. Write notes on the following :

   (a) Discovery of viruses

   (b) Innate immunity          5×2=10

5. Describe the various scope of microbiology in India.          10

6. Describe general characteristics of the viruses and bacteria.          10

7. State the differences between Prokaryotic and Eukaryotic cell organisation.          10

8. Describe the importance of microorganisms and their diversity in nature.          10

9. Give an account on classification of viruses on the basis of morphology and chemical composition with example.          10

10. Write ntoes on the following :

    (a) Whittaker's five kingdom concept

    (b) Nutrition in bacteria          5×2=10