

(BIC20112)

UNIT III

M.Sc. DEGREE EXAMINATION, APRIL 2019.

Second Semester

Biochemistry

Paper I — PLANT BIOCHEMISTRY

(Regulation 2012)

Time : Three hours

Maximum : 70 marks

Answer FIVE questions, ONE from each Unit.

UNIT I

1. Write an account on evapotranspiration. (14)

Or

2. (a) Vacuoles. (7)

(b) Absorption and adsorption. (7)

UNIT II

3. Describe the coupling between electron transport and generation of NADPH & ATP. (14)

Or

4. (a) Carotenoids and Phycobilins. (7)

(b) Photorespiration. (7)

5. Write an account on plant hormones. (14)

Or

6. (a) Seed germination and dormancy. (7)

(b) Factors effecting seed germination. (7)

UNIT IV

7. Describe the nature, distribution, biosynthesis and functions of Lectins. (14)

Or

8. (a) Criteria of stress tolerance (7)

(b) Water and heat stress. (7)

UNIT V

9. Write an account on legume- Rhizobium symbiosis. (14)

Or

10. (a) Leghaemoglobin. (7)

(b) Nitrate reductase. (7)

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UNIT III

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Paper II — INTERMEDIARY METABOLISM

(Regulation 2012)

Time : Three hours

Maximum : 70 marks

Answer FIVE Questions choosing ONE from each Unit.

UNIT I

1. Explain glycolysis and its regulation. (14)

Or

2. (a) Biogenesis of amino sugars. (7)  
(b) Glycoproteins. (7)

UNIT II

3. Describe the metabolic reactions of amino-acids. (14)

Or

4. (a) Regulation of Urea cycle. (7)  
(b) Formation of Creatine. (7)

5. Write an account on biosynthesis and degradation of Glycine. (14)

Or

6. (a) Histidine. (7)  
(b) Methionine. (7)

UNIT IV

7. Describe the Oxidation of fatty acids. (14)

Or

8. (a) Metabolism of ketone bodies. (7)  
(b) Leucotriens. (7)

UNIT V

9. Write an account on biosynthesis and degradation of Purines and their regulation. (14)

Or

10. (a) Importance of biogenic enzymes. (7)  
(b) Deoxyribonucleotides. (7)

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M.Sc. DEGREE EXAMINATION, APRIL 2019.

Second Semester

Paper III — MICROBIAL BIOCHEMISTRY

(Regulation 2012)

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

1. (a) Describe variant and invariant components of bacterial cell wall.

(b) Describe the factors influencing the growth of bacteria.

Or

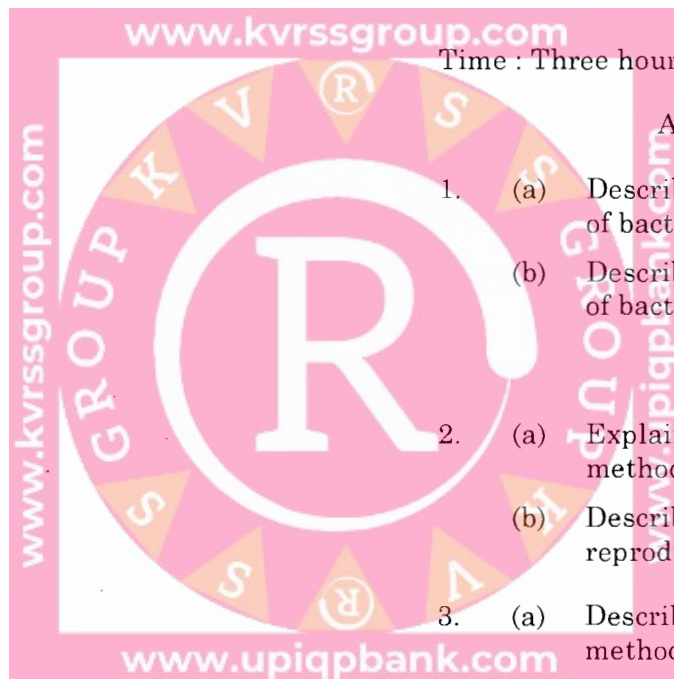
2. (a) Explain the isolation and cultivation methods of bacteria.

(b) Describe the morphology and methods of reproduction in bacteria.

3. (a) Describe the types of fermentation and methods of sterilization.

(b) Describe the fermentation production of antibiotics such as Penicillin.

Or



4. (a) Explain Downstream processing and its importance.  
(b) Describe the principle, and applications of SEM.

5. (a) Write an account on the modes of nutrition in bacteria.  
(b) Describe how food spoilage takes place and methods of preservation.

Or

6. (a) Describe the methods of sterilization and disinfection.  
(b) Enumerate the role of microorganisms in industrial sewage.
7. (a) Write an account on Tuberculosis.  
(b) Discuss about Anthrox.

Or

8. (a) Describe food borne diseases such as Salmonellosis and Botulism.  
(b) Write an account on Leprosy and syphilis.

9. (a) Describe the composition and structure of virus.  
(b) Explain Virus and host interactions.

Or

10. (a) Write an account on adenoviruses.  
(b) Enumerate AIDS.

**(BIC20412)**

M.Sc. DEGREE EXAMINATION, APRIL 2019.

Second Semester

Biochemistry

Paper IV — MOLECULAR BIOLOGY

(Regulation 2012)

Time : Three hours

Maximum : 70 marks

Answer ALL questions.

1. Describe the enzymes involved in DNA replication. (14)

Or

2. (a) Inhibitors of DNA replication. (7)  
(b) DNA replication in Eukaryotes. (7)
3. Describe the DNase protection method and footprinting assays. (14)

Or

4. (a) Polycistronic mRNA. (7)  
(b) Inhibitors of transcription. (7)

5. Describe the structure and functions of prokaryotic and eukaryotic Ribosomes. (14)

Or

6. (a) Concept of signal peptide. (7)  
(b) Alternative protein transport mechanism. (7)

7. Describe the post translation modifications of proteins. (14)

Or

8. (a) Structures of tRNA and mRNA. (7)  
(b) Operon concept. (7)

9. Write an account on the types of mutations. (14)

Or

10. (a) Recombination and SOS repair. (7)  
(b) Photoreactivation. (7)