



SS – 336

III Semester B.Sc. Examination, Nov./Dec. 2018  
(Freshers + Repeaters) (CBCS) (2015-16 and Onwards)  
Paper – III : BIOCHEMISTRY

Time : 3 Hours

Max. Marks : 70

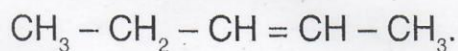
- Instructions :** i) The question paper has **two** Parts, Part – A and Part – B.  
ii) Answer **any eight** questions from Part – A and **nine** questions from Part – B.

## PART – A

Answer **any eight** of the following questions. **Each** question carries **two** marks.

(8×2=16)

1. Write the conversion of piperidine from pyridine.
2. Write the structure and biological importance of Menthol.
3. What are dicarboxylic acids ? Give an example.
4. Write any two toxic effects of mercury.
5. What are auxochromes ? Give an example.
6. Write the structure of EDTA.
7. What is plane of symmetry ?
8. Explain metamerism in amines with an example.
9. Write the structure of penicillin.
10. What are emulsions ? Give an example.
11. What is meant by specific heat of water ?
12. Assign E and Z configuration for the following :



P.T.O.



## PART - B

Answer **any nine** of the following. **Each** question carries **six** marks. (9×6=54)

13. a) Explain the sequence rule of R and S notation.  
b) Write the structure of indole. (4+2)
14. a) Describe the general properties of alkaloids.  
b) Write any two uses of malathion. (4+2)
15. a) Give any one contribution of the following scientists :  
i) Watson and Crick  
ii) Hans Krebs  
iii) Chargaff  
iv) Lavoisier.  
b) Write the principle of chromatography. (4+2)
16. a) What are metalloenzymes ? Explain their functions.  
b) How is lactic acid prepared from pyruvic acid ? (4+2)
17. a) What is bioremediation ? Mention its applications.  
b) Write the biological importance of dopamine. (4+2)
18. a) Explain the principle and applications of centrifugation.  
b) What is bioluminescence ? Give an example. (4+2)
19. a) Explain the effect of heat on  
i) Adipic acid  
ii) Succinic acid  
b) What are co-ordination compounds ? Give an example. (4+2)
20. a) Explain the role of metal ions in  
i) Cytochrome  
ii) Chlorophyll.  
b) Write the name and structure of basic ring system present in steroids. (4+2)





21. a) Discuss the two functions that are responsible for the anomalous properties of water.
- b) Name the metal ions present in the following enzymes :
- i) Phosphohydrolase
  - ii) Carboxy peptidase. (4+2)
22. a) Write the structures of lindane and 2, 4 –D.
- b) Give the mode of action of streptomycin. (4+2)
23. a) Discuss the stereochemistry of lactic acid.
- b) Give the principle of NMR spectroscopy. (4+2)
24. a) Write a short note on electrophoresis.
- b) Mention any two differences between thermochemical and photochemical reaction. (4+2)
25. a) Write the structure and properties of maleic and fumaric acid.
- b) What is electro-osmosis ? (4+2)



(8+2=10)