85048

SN – 343

III Semester B.Sc. Examination, November/December 2017
(Freshers + Repeaters) (CBCS) (2015 – 16 and Onwards)
BIOCHEMISTRY (Paper – III)

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. What is the contribution of the following scientists for the development of biochemistry ?
   i) Van Helmholtz
   ii) Karl Scheele.
2. Mention the role of iron in Haemoglobin.
3. What are pesticides ? Give an example.
4. How lactic acid is prepared from pyruvic acid ? Give the reaction.
5. Write the structure and medicinal uses of Nicotine.
6. Write the mode of action of penicillin.
7. Give any two biological importance of Lanosterol.
8. State Grothus-Draper's law.
9. What are emulsions ? Give an example.
10. Define the term Epimer. Give an example.
11. Mention any two applications of NMR spectroscopy.
12. Mention one biological importance of DOPA and Histamine.

P.T.O.

PART – B

Answer **any nine** of the following. **Each** question carries **six** marks.

13. a) Write any two sources of Lead pollution. Explain toxicity of lead.
    b) What is phytoremediation ? **(4+2)**

14. a) Write the distinguishing reactions for 1°, 2° and 3° amines using Nitrous acid.
    b) Write the principle of electrophoresis. **(4+2)**

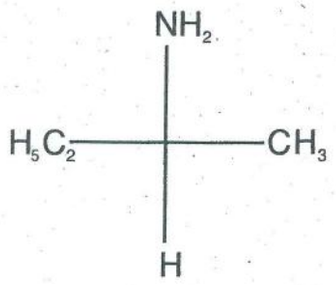
15. a) What are Ligands ? Mention their types with an example each.
    b) Write the structure of BHC. **(4+2)**

16. a) List any four applications of emulsions in lipid chemistry.
    b) Write the structure of oxaloacetic acid. **(4+2)**

17. a) Write the reactions of pyridine with HCl and Br_2.
    b) Write the structure of β-carotene. **(4+2)**

18. a) Give the principle and applications of centrifugation.
    b) State the principle of IR spectroscopy. **(4+2)**

19. a) Write the definition and biological importance of the following :
        i) Specific heat of water
        ii) Heat of vapourisation of water.
    b) Give the R or S notation for the given structure. **(4+2)**



20. a) What is mutarotation ? Explain with an example.
    b) Write the structure and biological importance of abscisin-II. **(4+2)**

21. a) List the general characteristics of alkaloids.

b) Write the structure of

i) citric acid

ii) iso-citric acid. (4+2)

22. a) What are Haemocyanins ? Explain the role of copper in them.

b) Define chemical shift. (4+2)

23. a) What are metalloenzymes ? Explain their functions.

b) Define co-ordination compounds. Give an example. (4+2)

24. a) Explain the sequence rule of E-Z notation with an example.

b) Mention any two uses of sulfanilamide. (4+2)

25. a) Write the principle and any two applications of GLC.

b) What is photocatalysis ? Give an example. (4+2)
