M.Sc. 3rd Semester Examination, 2023

CHEMISTRY

PAPER – CEM-304 (CBCS)

Full Marks : 50

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP – A

1. Answer any *four* questions : 2×4

(*a*) Write down the differences between pharmacodynamics and pharmacokinetics.

(*b*) What are receptors ?

(*c*) Write down the characteristics of non-catalytic protein receptors.

(*d*) What are analgesics ? Give an example.

(*e*) Draw the structure of quinine.

(*f*) Write down a scheme for the synthesis of nicotinamide from 3-methyl pyridine.

GROUP – B

2. Answer any *four* questions : 4×4

(*a*) Explain how captopril inhibit the activity of angiotensin converting enzyme.

(*b*) Why salbutamol is called agonist drug ? Give proper explanation with the help of an example.

(*c*) Write down the name of an antagonist drug. Explain its action with suitable example.

(*d*) State the functions of vitamin C.

(e) Write down the synthesis and scheme for the synthesis of clotrimazole.

(f) Suggest two methods for the synthesis of levodopa.

GROUP – C

3. Answer any *two* questions : 8×2

(a) Write short notes about the different procedure of drug administration in Human body. Explain how aspirin inactivate prostaglandin synthase ? $4 + 4$

(b) Write down the synthetic steps involved in the preparation of captopril. Describe the synthesis of salbutamol. $4 + 4$

(c) State the sources of riboflavin. What are diseases caused by the deficiency of this vitamin ? How will you synthesize it using ethyl chloroformate ? $2 + 2 + 4$

(*d*) Write down the scheme for the synthesis of chloroquine and selegiline. 5 + 3

[Internal Assessment – 10 Marks]