PG/IIIS/CEM-304/19(CBCS)

M.Sc. 3rd Semester Examination, 2019

CHEMISTRY

PAPER – CEM-304

Full Marks : 40

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

Illustrate the answers wherever necessary

1. Answer any *four* of the following questions : 2 × 4

   (*a*) Draw the structure of retinol.

   (*b*) State the function of ethopropazine.

   (*c*) How will you prepare chloral hydrate ?

   (*d*) How will you prepare levodopa from L-tyrosine ?

(*e*) Define pharmacodynamics and pharmacokinetics.

(*f*) What do you mean by ADME ?

(*g*) How receptor molecules accept the drug ?

(*h*) What are receptor molecules ? Give two examples.

2. Answer any *four* questions : 4 × 4

(*a*) What are analgesics ? How are they classified ?

(*b*) State the physiological functions of vitamin C.

(*c*) What is hydroxycholoroquine used for ? How will you synthesize it ?

(*d*) How will you synthesize Phenobarbital ?

(*e*) Explain how captopril binds with Enzyme ACE and block it. Explain with diagram.

(*f*) Show how salbutamol acts as agonistic drug and is used as bronchodilator.

(*g*) Describe the inactivation of prostaglandin synthesis by aspirin.

(*h*) What are the points to be noted during study of pharmacokinetics of drugs ?

3. Answer any *two* questions from the following : 8×2

(*a*) State the sources of vitamin B_1 ? What are diseases caused by the deficiency of this vitamin ? How will you synthesize this vitamin ? $2 + 2 + 4$

(*b*) Suggest a scheme each for the synthesis of triazolam and amobarbital. $4 + 4$

(*c*) Draw the structure of ranitidine and explain how it acts as blocker for the treatment of acidity in stomach ? Describe the synthesis of paracetamol. $4 + 4$

(*d*) Discuss about the different type of macro-molecular receptor. Outline the synthesis of salbutamol. 4 + 4
