

# Gurudas College

## B.Sc. Semester-IV Internal Examination 2020

### SEC-B

### PHARMACEUTICAL CHEMISTRY

Time: 2 Hrs.

Full Marks: 50

#### Group–A (Theory)

Answer any eight questions

5×8=40

1. Write down the structure of Arsphenamine. What is the role of Arsphenamine? Why was it replaced by Penicillin?
2. How will you prepare aspirin from salicylic acid? What are the properties of aspirin when carboxylic acid is replaced by amide group and phenolic OH group is placed meta or para to the carboxyl group?
3. Carry out the synthesis of paracetamol. Discuss its properties, uses and dose in a day for an adult.
4. Discuss about the properties and uses of ibuprofen. What do you know about the SAR (Structural Activity Relationship) of ibuprofen?
5. Carry out the synthesis of chloramphenicol using 1-(4-Nitrophenyl) ethenone as starting material.
6. Discuss about the properties and uses of ZDV? Write down the proper doses of ZDV.
7. Write down the structure of trimethoprim. Discuss about the properties and uses of trimethoprim. What is the proper dose of trimethoprim?
8. Carry out the synthesis of acyclovir using 2-amino-1H-purin-6(9H)-one as starting material. What is the proper dose of acyclovir?
9. What do you mean by aerobic and anaerobic fermentation?
10. Discuss on the screening process of streptomycin from the “Waksman Platform”.
11. Discuss on the recovery and purification of penicillin.
12. How will you synthesize glyceryl trinitrate from glycerol and discuss its SAR studies?

#### Group–B (Internal Assessment)

Answer any two questions

5×2=10

13. Carry out the synthesis of phenobarbital and discuss its uses.
14. Outline the inoculum development program for a Vitamin B<sub>12</sub> pilot scale fermentation.
15. Why should you take an antacid just after or before taking aspirin, paracetamol or ibuprofen?