

Roll No.....

S. No. of Question Paper :
Unique Paper Code : **32173909**
Name of the Paper : **Pharmaceutical Chemistry**
Name of the Course : **B.Sc. (H) Chemistry**
Semester : **III**

Duration: 3 Hours

Maximum Marks: 38

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
 2. Attempt any **four** questions.
 3. Each question carries 9.5 marks.
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1. (i) Describe the laboratory synthesis of paracetamol and its mode of action. (4)
(ii) Discuss the production of ethyl alcohol through anaerobic fermentation. (4)
(iii) Differentiate between narrow-spectrum and broad-spectrum antibiotics. (1.5)
 2. (i) Explain retrosynthetic approach in drug discovery. Write down retrosynthetic pathway of paracetamol. (4)
(ii) What is the role of gelatin and kaolin as pharmaceutical aids in drug formulation? (4)
(iii) What is the meaning of 'High Therapeutic Index'? (1.5)
 3. (i) Write short note on any one of the followings: (4)
(a) Lead Compound
(b) Bioisosteres
(ii) What are drugs and what is the role of SAR studies in drug development? (4)
(iii) What are the side effects of cetirizine and thalidomide? (1.5)
 4. (i) Describe the fermentation process for production of glutamic acid. (4)
(ii) Define following terms with suitable examples: (2 x 2 = 4)
(a) Antiviral agents
(b) Cardiovascular drugs

(iii) Define the term 'Synergism'. (1.5)

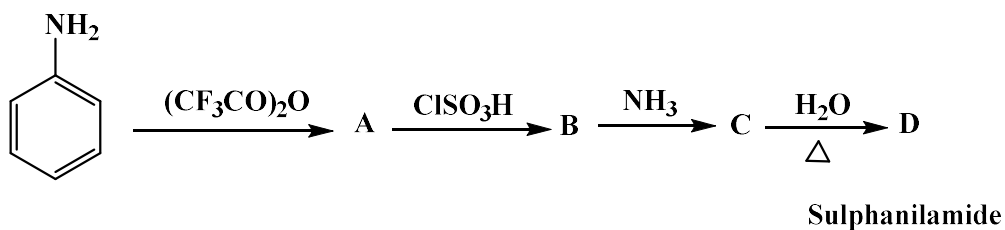
5. (i) Write down the chemical synthesis of sulfamethoxazole with its therapeutic uses and adverse effects. (4)

(ii) Match the following: (1 x 4 = 4)

Column A	Column B
Ascorbic Acid	Vitamin B ₁₂
Cobalt	Streptomycin
<i>Aspergillus niger</i>	Vitamin C
<i>Streptomycin griseus</i>	Citric Acid

(iii) Write the full name of 7-ACA and draw its chemical structure. (1.5)

6. (i) Mention the structure of the compounds A-D. (4)



(ii) How can Penicillin be produced commercially using fermentation method? (4)

(iii) Differentiate between 'potency' and 'efficacy' of drugs. (1.5)